Manitoba

Annual Report
1984 - 85

Natural Resources

Manitoba

Minister of
Natural Resources

215 Legislative Building
Winnipeg, Manitoba, CANADA
R3C 0V8

To Her Honour
Pearl McGonigal
Lieutenant-Governor of Manitoba

Your Honour:

I am pleased to present to you the fifty-fourth Annual Report of the Department of Natural Resources, recording the activities of the department for the fiscal year ending March 31, 1985.

Yours truly,

Len Evans

Len Evans
Minister

Manitoba

Deputy Minister of
Natural Resources

215 Legislative Building
Winnipeg, Manitoba, CANADA
R3C 0V8

The Honourable Len Evans
Minister of Natural Resources
Room 215, Legislative Building
Winnipeg, Manitoba
R3C 0V8

Sir:

I am pleased to provide the Annual Report of the Department of Natural Resources for the fiscal year 1984-85. The activities of the department impact in some fashion upon every citizen of Manitoba.

I believe you will find this summary to be an accurate account of the department's efforts to ensure that Manitobans are provided with a diversity of outdoor recreational opportunities and to manage resource harvesting operations such that they can be sustained for the economic development and prosperity of local areas within the province. As well, you will find reference to the provision of opportunity to hunt, harvest and gather resources for subsistence needs.

The department is responsible for providing protection to Manitobans from floods and forest fires. It seeks a balance between competing land uses and endeavours to minimize disadvantageous impacts of one resource use upon another.

Respectfully submitted,

R. L. (Nick) Carter

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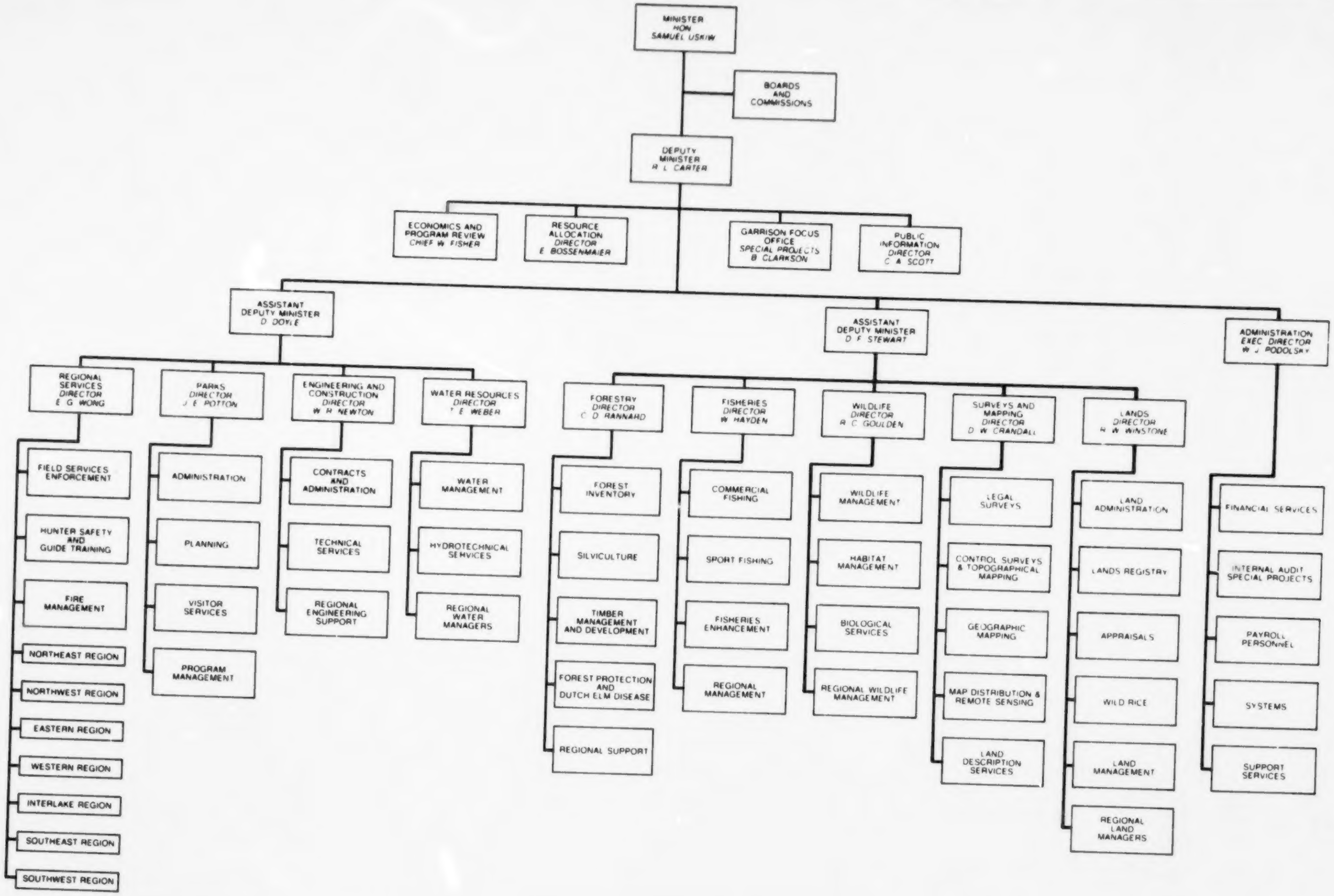
(March 31, 1985)



MINISTER HON SAMUEL USKIW
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INTERLAKE REGION
SOUTHEAST REGION
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WATER MANAGEMENT
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HABITAT MANAGEMENT
BIOLOGICAL SERVICES
REGIONAL WILDLIFE MANAGEMENT
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CONTROL SURVEYS & TOPOGRAPHICAL MAPPING
GEOGRAPHIC MAPPING
MAP DISTRIBUTION & REMOTE SENSING
LAND DESCRIPTION SERVICES
LANDS DIRECTOR H W WINSTONE
LAND ADMINISTRATION
LANDS REGISTRY
APPRAISALS
WILD RICE
LAND MANAGEMENT
REGIONAL LAND MANAGERS
FINANCIAL SERVICES
INTERNAL AUDIT SPECIAL PROJECTS
PAYROLL PERSONNEL
SYSTEMS
SUPPORT SERVICES

Introduction

The Department of Natural Resources is responsible for the protection, conservation, management and development of Manitoba's forests, fisheries, wildlife, waters, parks and Crown lands. Through the management of these resources, the department makes a significant contribution to economic development, creates jobs, provides recreational opportunities, and ensures that the basic needs of subsistence users are met. It also provides protection from floods, wildfires and other adverse effects of natural resources.

The department includes six branches with clearly defined areas of responsibilities for specific areas of resource management. They are Fisheries, Forestry, Lands, Parks, Water Resources, and Wildlife branches. Operational and support services are provided by an additional seven branches. These include Regional Services, Engineering and Construction, Surveys and Mapping, Administrative Services, Public Information, Resource Allocation and Planning, and Economics and Program Review. The Garrison Focus Office co-ordinates Manitoba's efforts against the construction of the Garrison Diversion as presently designed.

The following report highlights the activities and accomplishments of the Department of Natural Resources for the fiscal year 1984-85.

Administrative Services

This division provides administrative and professional support to the department, ensuring on behalf of the Deputy Minister and Minister that administrative policies, procedures and directives are followed.

Financial Services

This section co-ordinates the preparation of departmental revenue and expenditure estimates; controls and processes departmental accounts payable; ensures that the department claims, collects and credits the full entitlement of revenues and receipts; controls the distribution and sales of wildlife and fishing licenses; develops and implements financial policy, systems and procedures; provides financial information and direction to departmental management, other government departments and central agencies.

Personnel Services

This branch is responsible for recruitment and selection of permanent and term employees; for reviewing and recommending position classifications; administers the Payrolls Section which is responsible for all payrolls and benefits; co-ordinates affirmative action, staff training and development and workplace health and safety activities; and provides for employee counselling and advice on staff relation matters.

The Personnel Services Branch converted to the government's new payroll system with a master file for over 3,000 employees. This entailed nine training sessions for those involved in the processing of departmental "gangsheet" payrolls. The Fire Fighter Payroll Account, a one-write system used for payment of wages to emergency fire fighters, was maintained and controlled. Computerized payroll records were maintained for issuance of T4's to 344 tree planters.

An Affirmative Action Committee was organized, and all members have attended the required training program.

Workplace, Safety and Health Committees were established at all locations within the department. An Accident/Injury Investigation Manual was completed and distributed to all safety committee members.

All offices in the department received the departmental newsletter, "Safety News and Views." Video equipment was acquired by the Safety and Training Officer to develop in-house training films for regional and district officers.

Personnel Services processed 47 formal competitions; 89 entry level permanent and term appointments and 357 classifications were reviewed. In addition, 88 S.T.E.P. students, 1,900 departmental employees and 2,844 casual fire-fighters were hired.

Systems Services

Systems Services assisted several branches in benefiting from computer technology by introducing new or upgraded automated systems to their operations. Systems Services provided the technical expertise required to review requirements, to evaluate options, and to recommend and deliver the appropriate solutions. Equipment in excess of $1.0 million was acquired, ranging from a new minicomputer to upgraded plotters.

Within Administrative Services a review of word processing requirements was conducted and, as a result, a new shared resource word processing system was acquired. Preliminary reviews were completed to determine the department's requirements for both a new bookkeeping machine, and for a Personnel Manual.

Operational Support Services

Operational Support Services provided services in the areas of communications, office and storage accommodation, employee housing, clothing, office equipment, inventories, insurance, vehicles, warehousing and library services. Holdings of the latter include 300 periodicals and 25,000 books at two locations.

This section implemented the first phase of the Records Management Retention/Scheduling Program for the department. The concept of dual Secretarial and Clerical Handbooks for employees of the department was also initiated. The computerized Delegation of Authority Program was introduced.

The computerized "Inventory System of Fixed Assets" was expanded in the areas of categories and classes.

Internal Audit

The Internal Audit and Special Projects Section continued to provide a service to managers by reviewing, appraising and reporting on accounting, financial, and other operations of the department.

Economics and Program Review

This section assists departmental management in using public funds efficiently and effectively by providing, on an assignment basis, analytical, economic and evaluation support services.

The following surveys were completed in 1984/1985:

i. survey of park visitors to assess demand for new park services and facilities, and the degree of satisfaction with those now in place;

ii. survey of moose hunters to determine the economic value of moose to Manitoba; and

iii. survey to determine winter use at selected provincial parks.

In addition, a questionnaire was developed for the Parks Branch for use in assessing demand for lots at proposed cottage subdivisions.

The continued planning and evaluation of the department's fire management program included an analysis of the fire management alert system and alert response procedures, an historical analysis of the costs and distribution of fires and trends in average fire size, revisions to the fire management resource priorities map, development of an improved financial reporting system, development of an approach for valuing timber lost to forest fires, and participation on a fire review board.

The analytical and economic studies in 1984/85 included:

i. an assessment of the impact of Atikaki Provincial Wilderness Park on forestry operations and values;

ii. the feasibility of establishing a youth hostel within a provincial park;

iii. an assessment of the impact of possible intra-provincial fish sales on the Freshwater Fish Marketing Corporation;

iv. development of a benefit-cost framework for resolving the economic aspects of land allocation conflicts between agriculture and forestry;

v. a review of policy options related to fires originating within Local Government Districts;

vi. development of options for reducing the department's inventory of cottage lots; and

vii. an assessment of wildlife claims received from the communities affected by flooding of the Grand Rapids Forebay area.

Special assignments completed in 1984-85 included:

i. development of revised departmental and branch roles and missions;

ii. preparation of a booklet of statistics on natural resources;

iii. development of performance and trend indicators for use in monitoring performance within the department and related resource industries;

iv. development of options for enhancing revenue and reducing costs within the department, including proposals for changes in fees;

v. provision of project management for economic research projects carried out under the Canada-Manitoba Forest Renewal Agreement;

vi. representation on the Northern Development Agreement Program Advisory Committee; and

vii. an assessment of opportunities for resource-based development for the community of Lynn Lake.

Engineering And Construction

This branch provides engineering, construction supervision, contract management and technical support services to the department, municipalities, conservation districts and other provincial government agencies; through the Conservation Districts Authority, provides accounting, administrative and purchasing services to conservation districts; operates all flood control works under provincial jurisdiction, maintains flood-fighting plan, co-ordinates all flood fighting and assesses all municipal claims for flood-fighting costs and restoration works.

The branch embarked on the first year of its five-year automation plan with the acquisition of a word processor and terminal hook-up to the Water Resources' mini-computer. Further studies were done on the introduction of electronic survey instruments and computer-aided design and drafting equipment. The intent is to maintain a high quality of service without increasing staff.

Contracts and Administrative Services

Through the year construction specifications were updated, incorporating Manitoba materials. Greater use was made of the branch's micro-computer to optimize human and financial resources.

Contracts Administered, 1984-85

Works Contracts	58
Consulting Engineering Contracts	3
Hourly Rental Agreements	286

Technical Services

This section assisted other branches with a variety of engineering design projects, geotechnical services, construction inspections, consulting services and feasibility studies.

Investigations were begun for the design of the Pasquia Polder III project at The Pas.

More greenhouses and shade line buildings were designed for the nurseries at Pineland and Clearwater. Plans were also prepared for a seedling building at the Pineland Nursery and the dam on Wavey Creek to control water flow into Oak Hammock Marsh.

Various water and sewer systems at provincial parks were upgraded.

Designs were completed for all the water control projects of the Federal-Provincial Value Added Program. These were the Cooks Creek system, Domain Drain system, La Salle River system, Marsh River system and Morris River system.

Investigations were completed for a number of small projects, such as fish-rearing ponds and stream-regulation dams, for the Fisheries Branch.

Work continued on the flood protection dykes under the Valley Town Dyke Upgrading Program. A dam was constructed northwest of Deloraine for flood protection. This facility will also have some agricultural benefits.

Regional Engineering Services

During 1984-85 the cost of the programs and projects, including maintenance and construction, supervised by the branch for clients amounted to over $13 million.

Eastern Region

Various surveys were conducted for the Cooks Creek Conservation District, local government districts, municipalities and various branches of the department.

Maintenance and construction of Provincial Waterways and flood control works were completed for the Water Resources Branch.

Nine major drain crossings were replaced and excavation was completed on the upper South Lateral Drain, the upper Tourond Creek and the east and south sides of the St. Adolphe Dyke. Work commenced on the reconstruction of the Arnaud Drain and a major gradient control structure was completed on the outlet of the La Fond Drain.

A number of projects were completed for the Parks Branch, including a campground and washroom at Nutimik Lake, upgrading of sewer lines at West Hawk Lake and the water system at Big Whiteshell Lake, surface treatment of roads at Falcon Lake and a pumphouse at Big Whiteshell Lake.

Four greenhouses and eight shade frame structures with associated service building were constructed at Hadashville. Water distribution lines were constructed and material purchased for the irrigation system for installation in 1985/86.

A subdivision road northeast of Seven Sisters in Section 5-14-11E was upgraded, and the clearing for the Gronsdin Point power line was completed for the Crown Lands Branch.

Project management and site supervision were provided for the Papal site in Birds Hill Provincial Park.

The Red River Floodway outlet culverts were blocked for the Fisheries Branch to create a water storage area for the rearing of walleye fry.

Interlake Region

Projects for the Water Resources Branch included regular inspection and maintenance of the Provincial Waterways System and the Lake Winnipeg dykes, and the operation and maintenance of the provincial dams in the region.

The regular program of operation and maintenance of the Assiniboine River flood control system was continued. Damage to the Portage Diversion and Portage Spillway Wayside Park caused by spring flooding in 1983 were repaired. Also, a review of the operational procedures and structural performance under exceptional icing conditions was completed by consultants.

The Provincial Waterway Program included projects on Dog Hung Creek, Swan Lake Drain and the East Branch of Sturgeon Creek.

Projects for the Parks Branch included maintenance, grading and improvements to the drainage of the access road to Grindstone Point. On Hecla Island, construction was completed of the campground shower building begun in 1983/84. Materials were purchased for fire-fighting and for a water supply and sewage pump-out at Gull Harbour Marina. Designs for the proposed development of the marina were begun.

A cabin at Lake St. George and a fence around an orchard in the area were completed for the Forestry Branch.

Services provided to the Fisheries Branch included the construction of security fencing for the new fishway at the Fairford Dam and the walleye-rearing project on the Portage Diversion.

Work for the Wildlife Branch included continuation of the major development at Oak Hammock Marsh with the construction of a visitor reception centre, boardwalk, a dyke in the centre cell, and two rock islands. Work began on a water-supply channel, access roads were gravelled and the regular program of operation and maintenance of the facilities was continued. The south boundary of Basket Lake Wildlife Management Area was surveyed and drinking water was provided for the Narcisse Wildlife Management Area.

South Central Region

The earthwork contracts awarded under the joint Federal-Provincial General Development Agreement (G.D.A.) consisted of the reconstruction of the Bryson Interceptor "B" and laterals of the Domain Drain in the La Salle River Watershed and of the Roberts-McTavish-Taylor Drains in the Morris River watershed.

These contracts involved approximately 24 km of drainage channel and required the excavation of 250,000 m³ of material. The completion dates for the Domain and the Roberts-McTavish Drains were extended to July 1985 because of the inclement weather conditions in the area in the fall of 1984.

Two contracts were awarded during the winter of 1984/85 to ensure completion before expiry of the G.D.A. in September 1985, one for the Bryson Interceptor "C" and another for the Roberts-McTavish Drain. Together they involve the reconstruction of 10.4 km of drainage channel and the removal of 150,000 m³ of material. Tenders for a final contract for the completion of the remaining laterals on the Domain Drain will be requested in May 1985.

Only one contract was awarded under the Provincial Waterway Reconstruction Program. This was for the completion of 1 km of the North Shannon Creek through Section 32-4-3W, which involved the excavation of 70,000 m³ of material, the construction of one sheet pile and rock gradient control structure, and all culverts.

Under the Bridge Replacement Program culvert crossings were installed on the Buffalo Channel east of Section 1-2-3W and on the Rosebank Drain east of Section 9-5-5W. A concrete ford crossing east of Section 2-10-3W on the Elm Creek Channel was completed under contract.

The Valley Town Dyke Upgrading Program was begun with the awarding of the earthwork contracts: one for Brunkild and another for Morris. These involved grading 7.9 km of dyke and moving 190,000 m³ of material. The first was completed in September 1984. The completion date for the Morris dyke was extended to July 15, 1985 due to adverse weather conditions.

The upgrading of Rosenort, St. Jean Baptiste and Letellier, the remaining Red River valley towns west of the river, will continue into 1985/86.

The Water Resources Program in the South Central Region also consisted of maintenance of 715 miles of Provincial Waterways, including 490 bridges, 40 drop structures, 19 dams, 5 valley town dykes and the west dyke of the Red River Floodway.

Requests for services were received from 23 municipalities. The Water Resources Branch made 13 requests and one request each have been received from the Parks Branch and the Town of Morris.

Forty-one permits were processed in the Red River Valley Designated Flood Area in compliance with the designated area legislation.

Southwestern Region

The work by this section has been concentrated in the Whitemud Watershed and Turtle Mountain Conservation Districts with provision for technical support to the districts for a wide variety of engineering works from concept to completion. The highlights include the Big Grass River double dyke system near Waldersee (an ongoing project to protect agricultural land from frequent flooding and erosion) and a dam near Deloraine (to provide flood protection, to reduce erosion downstream and to store water for proposed irrigation).

Provincial Dams were operated and maintained for the Water Resources Branch. Several surveys were also completed for the Water Resources Branch and rural municipalities.

The section provided technical advice and completed minor projects for the Parks, Regional Services, Wildlife and Fisheries branches.

Western Region

Provincial Dams, including the pumping stations in the Pasquia Valley and 594 km of Provincial Waterways were operated and maintained for the Water Resources Branch. Major activities included brushing and repairs to the dyke on Edwards Creek, brushing on the Mink Creek dykes, clean out of the Jarosz, Brandt, Schlagg and Mud Lake Drains and Belinski Creek; and clean out and repairs to the dyke at Grace Lake. Culverts were purchased for replacements on the East Townline, Craigsford and Swinowski Drains and bridge material for replacement of two bridges on the Wilson River. The Pasquia Polder III development involved obtaining surveys of future lateral drains.

Work at the Clearwater Provincial Forest Nursery included installation of five shade frame structures, and purchase of material for four others.

A contract was awarded for the construction of seven greenhouses and one service building. An employees' bunkhouse was built under contract. The installation of the emergency power supply building and the generator were completed. The water supply system was extended and a new pumphouse erected. Seedline equipment was purchased and a contract awarded for the construction of a seedline building.

Work for the Parks Branch included the completion of a lift station at Bakers Narrows and improvements to the lagoon and treatment plant site. Complete electrification of the Wekusko Falls Campground, the shutdown of the Hugo Bay Campground, completion of the water supply system at East Blue Lake, and the upgrading of the pump-house at Rainbow Beach were undertaken. Material was purchased for the upgrading of the Asessippi Provincial Park water supply system.

Work for the Fisheries Branch involved construction of an access road, hydro poles and overhead hydro wires i.e. provision of hydro service to the proposed Winnipegosis Fish Hatchery.

Engineering services were provided to the Alonsa and Turtle River Watershed Conservation Districts. Major projects were undertaken on the Brunel Drain, Hansen Creek, Law Drain, Oake Drain, Krieser Drain and North Leifer Drain.

Fisheries

This branch develops and implements fisheries management programs designed to maintain or enhance fish populations in the province; monitors the effects of fishing and habitat alterations on fish populations; operates and administers the provincial fish hatcheries to increase and/or sustain fish resources; allocates and administers the fishery resource to ensure the best return to Manitobans; and administers the Northern Fishermen's Freight Assistance Program.

Bait Fishing

During the 1984-85 season, 36 bait fish licences covering 279 blocks were issued. Approximately 66,500 kilograms of frozen and packaged bait fish were processed by the bait fishermen.

In addition, five dealers for live bait were licensed and approximately 27,500 dozen live bait fish were sold. The moratorium on expansion of the live bait fish industry was continued and no new live bait fishing operations or outlets were licensed. The major concern with respect to the use of live bait fish is the threat of long term damage to fish stocks resulting from the introduction and transfer of exotic and undesirable species.

Commercial Fishing

The Northern Fisherman's Freight Assistance Program (NFFA) continued to assist commercial fishing operations in the north. More than $212,000 was made available to 589 commercial fishermen for the 1984 summer season. Payments for the winter season of 1984-1985 to approximately 190 fishermen amounted to more than $64,000.

Recent revisions to the freight subsidy program increased the maximum a fisherman could receive to 35¢ per kilogram (16¢ per pound) from 22¢ per kilogram (10¢ per pound). Commercial fishermen pay the first 11¢ per kilogram (5¢ per pound) of transportation costs and any amount over 46¢ per kilogram (21¢ per pound). The government pays 35¢ per kilogram (16¢ per pound).

The Lake Winnipeg Licence Review Board composed of commercial fishermen and departmental representatives met prior to each fishing season and heard 38 appeals for licences. To reduce the problem of unauthorized assignment of licences, the Board recommended the transfer of licences of elderly and disabled fishermen (non-relatives) to fishermen not covered by the Lake Winnipeg Licensing Procedures. The board's recommendations were forwarded to the Minister of Natural Resources.

Although Lake Manitoba is traditionally a winter 3 3/4" gill net pickerel and sauger fishery, the use of 3" mesh gill nets was allowed from mid-February to mid-March to harvest perch in the south basin of Lake Manitoba. Approximately 150,000 pounds of additional perch were harvested generating $100,000 in revenue for fishermen. Results of the trial are being studied and discussions will be held with fishermen before a decision is made to continue the fishery.

Regular meetings continued with the Lake Winnipeg Commercial Fisheries Management Advisory Board, the Lake Winnipegosis Commercial Operators and Fishermen's Association, and the Lake Manitoba Commercial Fishermen's Association. These organizations enable commercial fishermen to contribute to the management of the fisheries.

A pilot project to promote economic rationalization of individual fishing operations and allow retiring fishermen to recover their equity was set up in the Matheson Island/Pine Dock area of Lake Winnipeg as an alternative to the present "point" licensing system.

Having first indicated his intention to move the vessel insurance program into private hands, the Honourable John Fraser, Minister of Fisheries and Oceans, announced that the federal government would maintain the program after representation from the Manitoba Government and fishermen's associations identified the hardships this would cause, especially to fishermen in remote areas.

Fishermen Employed in Manitoba's Commercial Fishery, 1983-1984

	Northern Lakes	Lake Winnipeg	Lake Manitoba	Lake Winnipegosis	Other Lakes	Overall
Summer						
Licence Holders	473	792	103	58	99	1,466
Hired Men or Helpers	138	282	0	107	6	523
TOTAL	611	1,074	103	165	105	1,989
Winter						
Licence Holders	163	328	562	142	286	1,469
Hired Men or Helpers	54	125	541	159	145	1,013
TOTAL	217	453	1,103	301	431	2,482
Annual						
Licence Holders	537	863	610	152	333	2,418
Hired Men or Helpers	157	299	541	202	145	1,319
TOTAL	694	1,162	1,151	354	478	3,737

Note:

Those who fish in more than one area or season or who fish both as hired men and licence holders, are counted only once in the appropriate "TOTAL" column. Where hired man and licence holder duplication occurs, the individual is counted as a licence holder. Therefore, the table does not total horizontally or vertically.

This table includes 52 fishermen from Lake Winnipeg who hold only retirement licences and 30 fishermen from northern lakes who hold only general permits.

Commercial fishing statistics for the 1984-85 fiscal year were not available in time to be included in this report. They will appear in the annual report for the next fiscal year.

Commercial Fishing Production (Round kg), Total Value and Employment (Licensed Fishermen Plus Hired Men), 1976-1977 to 1983-1984

	Northern Lakes		Lake Winnipeg		Lake Manitoba		Lake Winnipegosis		Other Lakes		Manitoba Total		Total
Year	Weight (kg)	Value ($)	Weight (kg)	Value ($)	Weight (kg)	Value ($)	Weight (kg)	Value ($)	Weight (kg)	Value ($)	Weight (kg)	Value ($)	Employment
1976-77	3,087,550	2,094,250	4,497,750	5,226,850	1,059,850	849,850	823,650	444,700	1,228,000	888,350	10,696,550	9,504,000	2,953
1977-78	3,418,800	2,395,000	4,764,950	5,175,650	1,726,150	566,850	2,013,900	821,700	1,286,050	828,550	13,209,850	9,787,750	3,170
1978-79	2,915,500	2,629,000	4,949,100	5,765,300	1,535,500	713,350	2,462,000	1,022,050	1,577,650	1,425,900	13,439,750	11,555,600	3,161
1979-80	3,679,500	3,261,500	5,258,100	7,642,850	2,921,450	2,790,950	2,926,000	1,337,750	1,846,400	1,919,450	16,631,450	16,952,500	3,213
1980-81	3,474,300	3,576,200	5,652,800	9,066,800	2,330,400	2,270,950	3,172,650	1,375,200	1,816,100	2,346,750	16,446,250	18,635,900	3,659
1981-82	2,888,150	3,344,350	5,929,100	9,935,800	2,637,850	2,462,900	1,873,250	972,450	1,320,150	1,802,650	14,648,500	18,518,150	3,767
1982-83	2,732,850	2,252,500	5,446,900	6,963,800	3,290,800	1,825,900	2,550,350	1,096,900	1,446,900	1,235,750	15,467,800	13,374,850	3,826
1983-84	2,167,250	2,431,650	5,502,100	8,871,650	2,457,500	2,224,700	1,859,550	1,266,900	1,218,950	1,582,650	13,205,350	16,377,550	3,737

NOTE: *Total value includes both initial value and final payment.*
Commercial fishing statistics were not available in time to be included in this report. They will appear in the annual report for the next fiscal year.

Commercial Fishing Production (Round Weights kg) by Area and Total Value by Species, 1983-1984

Species	Northern Lakes		Lake Winnipeg		Lake Manitoba		Lake Winnipegosis		Other Lakes[1]		Total Production			Total Value		
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Total	Summer	Winter	Total
Whitefish	862,750	134,700	1,044,900	548,000		22,250	11,350	58,450	104,750	132,000	2,023,750	895,400	2,919,150	1,434,850	1,047,500	2,482,350
Roe[3]	(700)								(3,650)		(4,350)		(4,350)	13,150		(13,150)
Pickerel	507,700	47,350	1,332,750	166,350		444,650	188,350	86,100	340,400	82,250	2,369,200	826,700	3,195,900	5,629,600	2,386,600	8,016,200
Sauger	300	150	1,311,550	738,850		176,750	200	2,000	200	1,650	1,312,250	919,400	2,231,650	1,894,250	1,722,350	3,616,600
Pike	394,950	79,150	185,950	38,300		183,450	28,100	422,600	109,800	303,850	718,800	1,027,350	1,746,150	445,900	750,800	1,196,700
Tullibee	63,000	11,650	50	Tr[2]			Tr[2]	Tr[2]	68,900	7,200	131,950	18,850	150,800	48,750	8,400	57,150
Trout	18,700	100									18,700	100	18,800	27,750	200	27,950
Mullet	28,050	7,900	6,150	15,500	926,600	358,600	588,750	357,450	5,250	59,750	1,554,800	799,250	2,354,050	216,550	140,100	356,650
Goldeye	1,750	50	400	Tr[2]		Tr[2]	150	7,050	Tr[2]	450	2,300	7,550	9,850	1,650	6,100	7,750
Perch	200	1,550	44,100	17,950		57,250	Tr[2]	850	200	1,200	44,500	78,800	123,300	167,350	323,700	491,050
Carp			26,900	19,350	218,650	68,150	32,000	76,150		1,100	277,550	164,750	442,300	47,300	26,150	73,500
Maria																
Sturgeon	7,250										7,250		7,250	48,650		48,650
Bass			1,400	2,650							1,400	2,650	4,050	700	1,350	2,050
Catfish			900	50	1,150						2,050	50	2,100	950	Tr[2]	950
Total	1,884,650	282,600	3,955,050	1,547,050	1,146,400	1,311,100	848,900	1,010,650	629,500	589,450	8,464,500	4,740,850	13,205,350	9,964,300	6,413,250	16,377,550

[1] *Includes Cedar, Chitek, Dauphin, Dog, Little Limestone, Pelican, Pickerel, Proulx, Red Deer, Sisib, St. Martin, Swan, Waterhen, William Lakes.*

[2] *Trace (small amount).*

[3] *Figures for roe are not included in table totals.*

NOTE: *Total value includes both initial value and final payment.*
Commercial fishing statistics for the 1984/85 fiscal year were not available in time to be included in this report. They will appear in the annual report for the next fiscal year.

Fish Culture

Site preparation and access were completed at the site of the proposed hatchery on Lake Winnipegosis. Meanwhile, two permanent hatcheries, three seasonal hatcheries and several mobile operations contributed to hatchery production.

Commercial fishing waters were stocked with 31 million walleye fry. Approximately 19 million walleye fry were stocked in 18 rearing ponds for later release to fishing waters as fingerlings. Over 120 sport fishing waters were stocked with a variety of species. In addition, approximately 1,157,000 eyed lake trout eggs were returned to the waters where spawn was taken.

Numbers of Fish Distributed to Sportfishing Waters from Fish Hatcheries, 1984-85

	Fry	Fingerlings	Yearlings	Adults
Walleye	7,575,000			
Northern Pike				2,670
Muskellunge		100,000		
Perch				12,000
Smallmouth Bass		61,500		60
Largemouth Bass		22,900		
Crappie		9,000		104
Rainbow Trout			92,100	20,900
Brook Trout			63,328	8,450
Brown Trout			3,300	12,000
Lake Trout			240,600	
Splake			30,000	
Cutthroat Trout			4,000	

Fish Farming

About 300 permits were issued under the trout farming program. The type of operation continued to change to that of the "hobby farmer" who wants a small number of trout for his own use. About 30 commercial trout farming licences were also issued. The trout farming industry is gradually expanding in the Grand Rapids area and it appears that some lakes in this region have significant potential for extensive commercial aquaculture.

Fisheries Enhancement

Fisheries Enhancement personnel participated in the Biota and Fisheries Task Force of the Garrison Joint Committee (helping to update information on interbasin transfers of fish within the Garrison project area) and assessed new plans to prevent such transfers.

The two-year agreement with Ducks Unlimited (Canada) to study fish resources in the Saskeram Marsh was completed. Due to recent large winterkills, fish movements into and out of Saskeram Marsh were monitored at the Bracken Dam from break-up to freeze-up to determine if Saskeram Lake is a significant supplier of fish to the Saskatchewan River and, if so, to determine means of preventing or reducing winterkill. The study indicated that allowing fish access to the marsh, especially pike, benefits Saskatchewan River fish stocks. It was recommended that spring water-levels be kept stable to enhance spawning and reproduction of pike. Severity of winterkills in the Saskeram Marsh were related to quantities and duration of water releases from the Cumberland Marshes in Saskatchewan. Based on study results it was recommended that winterkills could be reduced by altering water releases from Cumberland.

The Red River Floodway was stocked with one million fry after the outlet culverts were controlled to create a productive environment for walleye rearing.

In accordance with the Canada-Manitoba Mercury Monitoring Agreement of 1983, fish were netted from twelve lakes in the Thompson area primarily along or associated with the Churchill River Diversion, to determine the level of mercury contamination. Mercury monitoring will be continued in the area in 1985. Preliminary results indicated that elevated mercury levels are present in fish from flooded lakes. There has been no significant decrease in mercury levels in fish from those lakes since the 1976 diversion.

The wide variety of projects begun in 1984, the first year of the Manitoba Habitat Heritage Program, will improve fish production for anglers and commercial fishermen. The projects completed involved lake aeration to prevent winterkill, gravel addition to lakes and streams to improve conditions for walleye spawning, dam construction to create trout ponds, and outflow controls on small fishless lakes for use as walleye rearing areas.

New design and analysis techniques were applied to refine estimates of recreational fishery use and angler catches in various regions.

Analysis of changes in the environment and the regulations affecting Lake Winnipeg's commercial catches yielded a model that predicts strengths of future catches as a function of spring warming trends and flow rates of major rivers.

Biological studies of the emerald shiner, the major species supporting the bait fish industry, were completed on the Red River to assist in the development of an allocation strategy for Red River bait fishermen.

Sport Fishing

With ongoing technological development and increased angler efficiency and knowledge, resource conservation has become a major management issue and the focus of management education programs and regulations. Extensive efforts were made to enhance and to extend the range of native species through stocking programs. Some stocking of exotic species occurred to provide angling diversity and for experimental purposes.

The maximum size of the one-trophy-only limit of walleye, pike and lake trout in northern Manitoba was reduced primarily to ensure a supply of larger fish for trophy angling in future.

Creel censuses were conducted on several major fisheries in 1984-85. Echo Lake, Crowduck Lake and George Lake in Whiteshell Provincial Park, Athapapuskow Lake and Lake of the Prairies were monitored.

Angling Licence Sales and Revenue, 1975-76 to 1984-85

Year	Resident Licences			Non-Resident Licences						Total Licences	
				1-day Licences			Seasonal Licences				
	Number	Fee	Revenue	Number	Fee	Revenue	Number	Fee	Revenue	Number	Revenue
1975-76	142,254	3.00	391,682.50	8,423	5.00	40,240.00	28,306	10.00	276,691.75	178,983	708,614.25
76-77	150,020	3.30	458,213.85	9,845	5.50	51,957.50	29,475	11.00	317,603.80	189,340	827,775.15
77-78	148,289	3.30	452,849.70	9,175	5.50	48,401.25	28,363	11.00	305,800.50	185,827	807,051.45
78-79	156,553	3.30	477,979.15	10,918	5.50	57,569.75	29,929	11.00	322,571.00	197,400	858,119.90
79-80	155,790	3.30	475,621.75	9,590	5.50	50,534.25	31,029	11.00	334,312.75	196,409	860,468.75
80-81	159,584	3.30	487,384.20	8,658	5.50	45,612.50	32,353	11.00	348,565.25	200,595	881,561.95
81-82	159,233	3.30	486,394.90	8,439	5.50	44,369.50	32,037	11.00	344,723.50	199,709	875,487.90
82-83	164,384	5.00	741,087.50	3,777	12.00	43,502.50	28,561	20.00	557,353.50	196,722	1,341,943.50
83-84	157,724	5.00	710,986.50	3,592	12.00	41,346.50	29,852	20.00	582,435.00	191,168	1,334,768.00
84-85	154,489	5.00	696,541.50	3,443	12.00	39,645.00	30,268	20.00	590,545.50	188,200	1,326,732.00

NOTE: *Revenue figures are net (less vendor's commission).*

Forestry

*This branch administers **The Forest Act**; develops and implements commercial harvesting plans for Manitoba's forests; administers timber-cutting licensing and measurement; conducts tree improvement and forest genetics studies; plans and co-ordinates silviculture, reforestation and timber management programs; maintains a forest inventory; develops and implements forest protection programs; and conducts Dutch elm disease control programs.*

Administration

The structure of the branch was changed on October 1, 1984 because of the increased silviculture activity identified in the **Manitoba Forest Management Plan 1981-2000**.

This additional work was made possible by the Manitoba Jobs Fund which contributed the provincial portion of the $27.16 million 5-year 1984-89 cost-shared Canada-Manitoba Forest Renewal Agreement.

This was supplemented by the Jobs Fund Sectoral Project in Forestry, adding an additional 15.8 million. Through their forest management renewal agreements with the province, Manfor Ltd. and Abitibi-Price Inc. will contribute 7.04 million worth of work. The commitments by these various sources will meet the $50 million identified in the 20-year forest management plan.

Forest Inventory

Forest Inventory reports were completed for Management Unit 05 (Neepawa) in the Aspen Parkland Forest Section, Management Unit 10 (Dauphin) in the Mountain Forest Section, Management Unit 42 (Arborg) in the Interlake Forest Section, and Management Units 51 (Grand Rapids North) and 52 (The Pas) in the Saskatchewan River Forest Section.

The final forest measurement data required for the Aspen Parkland Forest Section was collected by establishing sample plots in Management Units 05 (Oak Lake) and 07 (Shoal Lake). In addition, forest measurements were obtained in the Duck Mountain Provincial Forest (Management Unit 13) in the Mountain Forest Section.

The Canada-Manitoba Forest Renewal Agreement provided for the acquisition of a Resource Data Base System or Geographic Information System for Manitoba's Forestry Branch to upgrade Manitoba's capability to modify and rapidly evaluate the status of the forest resource in order to meet the needs for expanded detailed information. The analysis and evaluation of actual or proposed changes to Manitoba's Forest Resource base are necessary to predict available wood supplies. Therefore, a more comprehensive system was required to adequately assess the constantly changing impact on the forest resource base of fire, disease, modified harvesting schedules, market adjustments, forest land alienation and intensive forest management.

Components of the new comprehensive, computer-based analysis system provided by the Canadian Forest Service began to arrive at the end of the fiscal year, and operations are expected to start in mid 1985. This will be the first installation of its kind in Manitoba.

Forest Inventory Projects, 1984-85

Activity	Area Square kms	 Square Miles
Aerial Photography	15,350	5,930
Forest Cover Mapping	36,940	14,260
Air Photo Interpretation	26,610	10,270
Forest Surveys	23,800	9,190
Area Compilation	37,260	14,390
Area and Volume Statistics	37,260	14,390
Forest Inventory Reports	42,890	16,560
Township Air Photo Mosaics	22,700	8,760

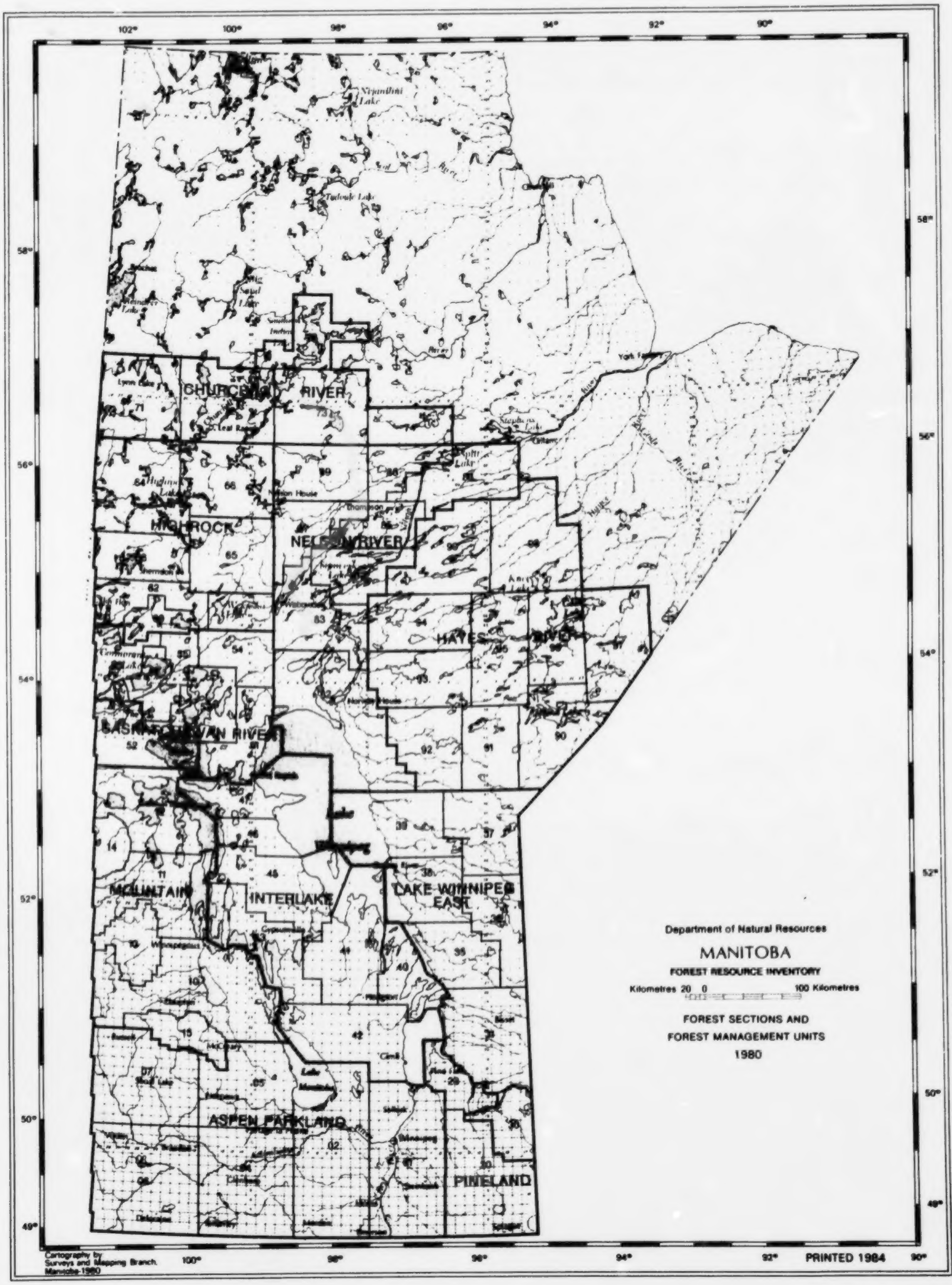
Timber Management and Development

Recovery of the forest industry continued towards the end of 1984 aided by the low Canadian dollar. The resurgence was strongest in the pulp and paper sector. However, early in 1985 the pulp market softened with Scandinavian and Brazilian products invading the U.S. market. From highs of $540/tonne U.S. in the summer, prices slid to $420 in March. Operating rates fell from a peak of 91% to a low in the high 70's at fiscal year-end. Bottoming out is expected and improvement anticipated. Newsprint fared better, but prices targeted to go from $535 per tonne to $570 effective January 1, 1985 were deferred to April 1st. Specialty papers remained strong.

Lumber problems continued due to high levels of lumber production, erratic prices, high inventory levels and high levels of housing starts.

Composite boards such as waferboard continued to increase their share of the market at the expense of plywood.

In Manitoba, Manfor mill modifications continued for both the sawmill and pulpmill. Abitibi-Price Inc. completed its second newsprint machine modification to a twin wire machine for better product formation. Both are now capable of producing a product preferred by newspaper publishers, keeping Manitoba newsprint competitive.


Department of Natural Resources
MANITOBA
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FOREST SECTIONS AND
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Trade Restrictions

The continuing malaise in the softwood lumber industry resulted in an expected renewed thrust by U.S. interests to curtail Canadian softwood lumber exports to the U.S. through the imposition of countervail tariffs. Support in the U.S. was much stronger and more widespread than in previous years, posing a more serious threat to the Canadian softwood lumber industry.

Land Allocations

The status of timber harvesting in Atikaki Provincial Wilderness Park had yet to be determined.

The Brightstone Sand Hills Provincial Forest was established in FMU 23.

Timber Supply Agreements

In accordance with the Manitoba/Abitibi-Price Inc. Agreement of 1979 the company's second five-year plan was reviewed jointly by all concerned departments and company representatives.

The Manitoba/Manfor Forest Renewal Agreement was signed on February 23rd, 1984, whereby Manfor assumed responsibility for forest renewal.

Timber Management

The 1984-85 volume of timber harvested from provincial Crown lands totalled 1,520,128 m^3 of softwood and 152,902 m^3 of hardwood, for a grand total of 1,673,030 m^3. This was a 11.5% increase over the 1,500,332 m^3 harvesting during the 1983-84 fiscal year. Gains were posted for pulpwood, roundwood and mine timber while lumber, ties, and fuelwood slipped slightly, with larger declines occurring in line poles and fence posts.

Forestry Branch revenues increased 10.6% over 1983-84 from $2.45 million to $2.71 million.

Gross Value[1] of Manitoba's Forest Products Industry

Year	Logging	Manufacturing[2]	
		Primary[3]	Secondary[4]
1980-81	$61,803,000	$180,000,000	$209,000,000
1981-82	50,765,000	177,000,000	243,000,000
1982-83	42,944,000	142,000,000	261,000,000
1983-84	50,433,000[5]	152,000,000[6]	281,000,000[6]
1984-85	63,000,000[6]	153,000,000[6]	284,000,000[6]

[1] *Value of shipments as defined by Statistics Canada.*

[2] *Future revisions will be required due to Statistics Canada's revision of the 1970 Standard Industrial Classification System. Data for 1984-85 may not be fully comparable to manufacturing data for other years.*

[3] *Primary Manufacturing (1970 SIC basis) includes sawmills and planing mills, pulp and paper mills, asphalt roofing manufacturers and miscellaneous wood factories.*

[4] *Secondary Manufacturing (1970 SIC basis) includes sash, doors, and other millwork; coffin and casket industry; wooden box factories; paper box and bag manufacturers; and miscellaneous paper converters.*

[5] *Revised estimate.*

[6] *Preliminary estimate.*

Annual Forest Production by Forest Product, 1980-81 - 1984-85

Year	Pulpwood		Lumber		Fuelwood		Other		Total	
	Volume (m^3)	%	Volume (m^3)	%	Volume (m^3)	%	Volume (m^3)	%	Volume (m^3)	%
1980/81	1,458,039	62.9	681,876	29.4	95,893	4.1	84,223	3.6	2,319,991	100%
1981/82	1,100,921	61.8	535,034	30.0	88,369	5.0	57,754	3.2	1,782,078	100%
1982/83	787,879	53.3	518,062	35.1	111,555	7.5	60,596	4.1	1,478,092	100%
1983/84	837,756	55.8	509,476	34.0	102,474	6.8	50,626	3.4	1,500,332	100%
1984/85	1,201,970	71.9	330,228	19.7	103,593	6.2	37,240	2.2	1,673,031	100%

Timber permits issued this fiscal year totalled 6,907. This was a reduction of 1,267 permits from the 8,174 issued the previous year, and was attributed to a reduction in cutting timber for private use.

Sixteen Timber Sale Quotas were assigned this year, and by March of 1985 there were 227 Timber Sale Quotas in force. However, Timber Permit Quota assignments number 43, about 12.5% of the 340 in force at the end of the 1984-85 fiscal year. This assignment activity was attributed to the 5-year review period.

Silviculture

The objectives of the silviculture program are:

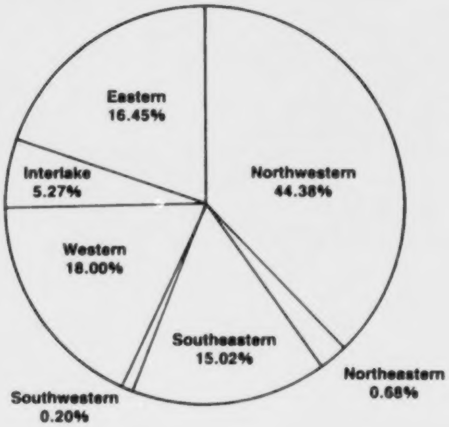
i. to improve seedling production both through genetically improved stock and physical production of seedlings;

ii. to increase the number of hectares being reforested by planting, scarification and seeding, to the required level; and

iii. to increase the level of management of young natural stands and plantations by thinning, juvenile spacing, pruning and clearing.

In general terms these objectives were satisfactorily met. However, in certain instances specific targets were not met due to weather conditions that prevented access to forested areas. Weather problems, including frost heaving, resulted in an estimated 10% loss in the provincial nurseries. Losses which had occurred in 1983-84 in the nursery programs resulted in a reduction of bareroot seedlings that were available for planting during 1984-85. To compensate for these problems, the containerized nursery program was accelerated to offset the loss in the bareroot program.

Percentage of Timber Produced Within Departmental Regions, 1984-85



Timber Cut on Crown Land, 1984-85

Product	Species	Round Wood (Cubic Metres)	Percentage
Lumber	Spruce, Pine, Fir	251,968	
	Tamarack, Cedar, Poplar, Birch and other hardwoods	78,260	19.738
Pulpwood	Spruce, Pine, Fir	1,185,640	71.844
	Poplar	16,330	
Railway Ties	Pine	2,862	0.171
Line Poles	Cedar, Pine, Tamarack, Spruce	57	0.004
Fence Posts	Cedar, Pine, Tamarack, Poplar, Spruce, Oak	7,263	0.434
Round Timber	Spruce, Pine, Tamarack	22,805	1.363
Mining Timber	Pine, Spruce	4,253	0.254
Fuelwood	Birch, Poplar, Pine, Spruce and other species	103,593	6.192
TOTAL 1984-85		1,673,031	100.00
TOTAL 1983-84		1,500,332	

Record of Timber Scaled or Manufactured, 1984-85

	LUMBER (CUBIC METRES)								PULPWOOD (CUBIC METRES)				PIECE PRODUCTS (CUBIC METRES)				FUELWOOD (CUBIC METRES)						CUBIC METRES	
																	GREEN							
	Metres Mine Timber	Christmas Trees Pieces	Spruce	Balsam	Jack Pine	Other Soft Woods	Poplar	Other Hard Woods	Spruce	Balsam	Jack Pine	Poplar	Railway Ties	C.W. Poles	P.J. Poles	Posts	Spruce	Jack Pine	Poplar	Other Hardwoods	Dry	Slabs And Tops	Round Timber	Totals
SUMMARY BY REGIONS																								
Northeastern		26	2,237		348											22	1,574	1,998	835	781	3,405		118	11,318.00
Northwestern	4,253	9	47,481		30,871		63	572	388,189		258,746		546		3	86	496	706	2,602	2,370	5,353		187	742,514.00
Southeastern		11,231	1,892	550	23,864	1,386	50,839	3,928	59,617	2,350	52,933	15,456	1,016		13	3,212	112	2,401	9,613	10,511	4,756	1,974	5,074	251,297.00
Southwestern			27		28		53	53							40	59		730	1,628	284	257		171	3,330.00
Eastern		9,640	9,980		4,010	526	1,228	478	191,856	1,086	44,310	874	1,248			645	417	2,644	4,371	7,353	3,866	136	483	275,291.00
Interlake		35	22,080	283	3,507	574	297	604	42,526	792	6,750		52			1,205	154	290	2,166	1,623	4,217	55	1,023	88,208.00
Western		1,015	81,452	13	20,976	63	18,420	1,725	100,658		36,027				1	2,054	138	407	5,716	8,460	9,189	5	15,769	301,073.00
TOTAL	4,253	21,956	164,969	846	83,604	2,549	70,900	7,360	782,846	4,228	398,766	16,330	2,862		57	7,283	2,891	9,176	26,931	31,382	31,043	2,170	22,805	1,673,031.00
SUMMARY BY STATUS OF LAND																								
Prov. Forests																								
Agassiz		2,825	32		1,474	172	2,256		5,340		4,840	10,287	159		6	511	8	199	3,308	2,771	1,220	101	170	32,854.00
Belair									2,142	60	2,583					57		1,295	230	897	34		18	7,316.00
Brightstone																		7	10	1,281	666			1,964.00
Cat Hills					1,036		2,480		91		737							37		5	47			4,432.00
Cormorant			7		49			572								11	20			28	120			807.00
Duck Mountain		545	44,082	13	11,290	49	17,046	822	47,592		7,505				1	81	55	200	1,405	3,593	814	2	14,078	148,628.00
NW Angle		3,809	27		3,674	119	17,638	3,660	7,189	925	3,892					591	15	18	60	2,503	195	13	251	40,760.00
Porcupine			28,043		8,756		50	860	37,400		28,483					1,660		26	400	1,386	7,640		581	116,274.00
Sandilands		5,714	1,041	125	11,714	381	15,375	277	34,377	400	31,250	3,269	442			1,540	95	1,815	4,822	6,006	2,031	1,709	2,624	119,093.00
Spruce Woods																		638	141	15	32		12	838.00
Turtle Mountain																30			33	200	37			300.00
Whiteshell			521		4,496	104	5,276		7,832		14,714		455			14	3	78	215	682	133		105	34,630.00
TOTAL PROV. FOR.		12,493	74,753	138	42,489	825	60,121	6,171	141,963	1,385	94,004	13,556	1,056		7	4,495	196	4,313	10,424	19,367	12,969	1,825	17,839	507,896.00
OTHER PROV. LANDS	4,253	9,463	90,216	708	41,115	1,724	10,779	1,189	640,883	2,843	304,762	2,774	1,806		50	2,788	2,695	4,863	16,507	12,015	18,074	345	4,966	1,165,135.00
TOTAL	4,253	21,956	164,969	846	83,604	2,549	70,900	7,360	782,846	4,228	398,766	16,330	2,862		57	7,283	2,891	9,176	26,931	31,382	31,043	2,170	22,805	1,673,031.00
SUMMARY BY METHOD OF DISPOSAL																								
Permits		5,772	4,380	629	4,233	1,490	12,860	2,270	22,437	2,650	10,116	7,603			56	4,903	2,692	8,839	22,160	25,382	27,017	2,146	7,865	169,738.00
Sales	4,253	16,174	116,078	217	51,212	608	57,035	4,787	248,844	1,545	93,789	8,727	1,653		1	2,380	199	332	4,771	5,897	4,026	24	14,915	621,273.00
Berths			44,451		28,146	451	1,005	303	509,983		294,861		1,209					5		103				880,517.00
Seizures		10	50		13				1,382	32													25	1,503.00
84-85 TOTAL	4,253	21,956	164,969	846	83,604	2,549	70,900	7,360	782,846	4,228	398,766	16,330	2,862		57	7,283	2,891	9,176	26,931	31,382	31,043	2,170	22,805	1,673,031.00
					330,228					1,201,970										103,593				
83-84 TOTAL	3,220	21,431	242,749	951	187,405	2,452	90,795	5,124	581,183	5,065	236,609	14,909	4,107	14	980	13,870	2,408	5,934	36,351	29,334	27,520	1,927	28,455	1,500,332.00
					509,476					837,756										102,474				

Permits, Licences and Quotas On Crown Lands (Including Provincial Forests), 1983-84 and 1984-85

	1983-84	1984-85
Timber Dealers and Sawmill Licences		
Timber Dealers	37	28
Sawmill Licences	152	124
Permits and Licences Covering Timber Cutting Rights		
Timber Permits	8,097	6,877
Pulpwood Permits	77	30
TOTAL	8,174	6,907
Timber Sale Agreements		
Awarded	50	23
Previously Awarded	251	232
TOTAL	301	255
Timber Seizures Recorded	15	17
Timber Quotas in Force on March 31st		
Timber Sales	230	227
Timber Permits	378	340
TOTAL	608	567
Crown Timber Revenue Portion	$1,964,510.80	$2,302,339.73
Total All Forestry Revenue (Crown Charges)	$2,450,426.53	$2,708,558.80

The silviculture program in Manitoba was carried out under: Regional Programs, Private Industry, Provincial Nurseries, Private Nurseries, and the Tree Improvement Program.

Regional Programs

The following activities were completed under the regional programs:

Trees planted	3,152,499 bareroot and container
Area planted	1,196 hectares
Area scarified for natural regeneration	2,013 hectares
Area site prepared for planting	2,261 hectares
Cones collected	300 hectolitres
Area herbicided	187 hectares
Area of stand improvement	2,224 hectares

Private Industry

Under the private industry program, Abitibi-Price Inc. planted 1,719,294 black spruce containerized seedlings on 636 hectares of their forest management licensed area. As well, 1,223 hectares were prepared for 1985 planting or scarified for natural regeneration. In addition, 1,501 hectares were treated with herbicides for plantation release and site preparation, including first-time applications and minor touch-ups.

Manitoba Forest Resources Ltd. in The Pas, which signed a forest renewal agreement to carry out forest renewal activities on their designated area, planted 392,516 black spruce seedlings. This was the first planting activity undertaken by the company under this agreement, and was successfully completed.

All containerized seedlings for Abitibi-Price Inc. and Manitoba Forest Resources Ltd. were produced at the Pineland and Clearwater Provincial Forest Nurseries. The seedlings were produced from cones supplied by the two companies.

Provincial Nurseries

The Pineland Provincial Forest Nursery shipped 2,691,902 bareroot and 1,787,326 containerized seedlings for planting on Crown lands during the year. This included white spruce, black spruce, jack pine, red pine, Scots pine and Siberian larch.

The Clearwater Provincial Forest Nursery shipped 392,516 containerized seedlings.

The ongoing bareroot seedling inventory in the fall of 1984 at Pineland was 13,712,507 seedlings.

The fall container inventory at the Pineland Nursery was 1,581,000 seedlings, and at the Clearwater Nursery 2,000,000. Because the Clearwater Provincial Forest Nursery cannot load and seed the container seedlings, Pineland Provincial Forest Nursery undertakes this task and ships the loaded trays to the Clearwater Nursery for germination and growing. It is anticipated that these capabilities will be developed at Clearwater next year.

Both provincial nurseries continued to expand under the five-year Canada-Manitoba Forest Renewal Agreement, and the following were achieved:

i. A residence at Clearwater Provincial Forest Nursery was completed for the nursery superintendent;
ii. a bunkhouse with lunch room was completed;
iii. 6 1/2 greenhouses were constructed;
iv. 4 shade units were built; and
v. the working blueprints were completed for a seed line building.

At Pineland, four greenhouses and six shade units were completed. A seed line building was built and put into operation, and seed line loading equipment was obtained for the northern nursery. In addition, tractors and lifting equipment as well as site preparation and planting equipment were ordered.

Extensive work was carried out to improve the irrigation system at Pineland. Additional bareroot field space is being developed and a good start was made on the additional 16 hectares of new bareroot field which is expected to be ready by the fall of 1986.

Private Nurseries

As provincial nurseries are capable of producing about 88% of the required container seedlings for 1985, negotiations were initiated with the Dakota Tipi Reserve at Portage la Prairie for up to 500,000 containerized seedlings.

Tree Improvement Program

The basic goal of the Tree Improvement Program in Manitoba is to develop genetically improved seeds for the forest renewal program and to assist in the growing techniques for the bareroot and containerized programs. In addition, the Tree Improvement Program staff developed and established new fertilizer schedules for containerized seedlings, and carried out monitoring of the crop in order to improve growing techniques.

Forest Protection and Dutch Elm Disease

Dutch Elm Disease Control

In 1984 Dutch elm disease continued to spread steadily in the wild elm stands of southern Manitoba and is now present along all the river systems except for portions of the Assiniboine River north of Virden and the Souris River south and west of Napinka. The disease also spread in farm shelterbelts of American and Siberian elms throughout the eastern and central parts of the province. Diseased elms were recorded for the first time in the Local Government Districts of Armstrong and Fisher Branch, and in the Rural Municipality of Coldwell, increasing the number of Municipalities and Local Government Districts where infected trees have been found from 59 in 1983 to 62 this year.

In contrast to the increased incidence of Dutch elm disease in the wild elm stands, the percentage of diseased elms in urban centres with control programs remained relatively low, less than 1% in the City of Winnipeg, and less than 2% in the City of Brandon. Although the number of elms removed in these major centres increased steadily over the past three years, over 85% of the trees involved were in wild stands along the riverbanks where control procedures are generally less effective.

Dutch Elm Disease Control Program

	Winnipeg			Brandon		
Year	Elms Sampled	Elms Diseased	Elms Removed	Elms Sampled	Elms Diseased	Elms Removed
1982-83	2489	1100	6365	361	284	959
1983-84	1552	1569*	7961	209	137	1198
1984-85	1864	1866*	7858	338	180	1433

*Figures provided by the City of Winnipeg

During the fiscal year 1984-85 there were 2,796 elms sampled in urban centres and rural communities throughout the range of American elm in southern Manitoba. Of these 1,561, or 56%, were found to be diseased; a total of 11,403 elms were removed. Cost-sharing agreements to control Dutch elm disease were made with 39 towns and rural municipalities. The communities were again responsible for implementing and carrying out the programs on a 50/50 cost-sharing basis to a maximum of $1.00 per capita per municipality. Total cost to the province in the 1984-85 fiscal year was $434,717 which included two separate demonstration agreements with Carman and Dauphin totalling $18,000.

Research projects with the City of Winnipeg were continued with expertise provided from universities and other government agencies. Emphasis was on the seasonal activity and breeding habits of the native elm bark beetle and the status and life history of the European elm bark beetle. Investigations to date indicate that the primary vector of Dutch elm disease in Manitoba remains the native elm bark beetle.

In the interest of increasing public awareness, public involvement, and the efficiency of spotting diseased trees, the province and the City of Winnipeg combined to initiate a volunteer tree watch program known as Elm Guard. Four communities within the city were involved; Crescentwood, Armstrongs Point, Wolseley and Wildwood. Community volunteers checked all the elm trees weekly in their neighbourhood over a six-week period and reported all suspicious trees to the regular Dutch elm disease surveillance staff. The program was considered a success and will be repeated and expanded for 1985 both inside and outside of Winnipeg.

Forest Pest Management

The objectives of the Forest Pest Management program were:

i. to prevent widespread mortality or significant growth loss in forested areas having present or future commercial value, including natural stands, plantations, seed orchards and provincial forest nurseries;

ii. to provide technical expertise with regard to maintaining the forest cover in high use recreation areas on Crown lands in a vigorous and aesthetically appealing state; and

iii. to provide information and technical assistance to the public regarding forest pest problems.

Spruce Budworm
This infestation persisted at high levels in the Interlake and Whiteshell, and east of Lake Winnipeg with considerable mortality of balsam fir in these areas. The outbreak is in its eighth year.

Jack Pine Budworm
The infestation increased substantially in 1984 to cover an estimated 760,000 hectares, extending from Gypsumville in the south to Lynn Lake in the north.

Forest Tent Caterpillar
Severe defoliation of aspen occurred for the 3rd successive year in the Northwestern Region. The extent of the infestation declined considerably. Egg mass surveys indicate a further decline in 1985.

Terminal Weevils
High populations of two species were present in jack pine plantations in Porcupine Provincial Forest and in white spruce plantations in the Mantagao area. Sanitation treatments were applied to over 205 hectares of the Mantagao plantations.

Dwarf Mistletoe
The post-logging treatments and the thinning and pruning of juvenile stands for the management of this disease were funded under the Canada-Manitoba Forest Renewal Agreement.

Lophodermium Needle Cast
Fungicide was applied to control this needle cast in bareroot red pine in the Pineland Nursery.

Canada-Manitoba Forest Renewal Agreement

The directorate of the Canada-Manitoba Forest Renewal Agreement consisted of federal and provincial co-chairmen and program managers, as well as non-voting members from both the Office of the Federal Economic Development Co-ordinator (FEDC) and the Provincial Economic Resource Investment Committee (ERIC), and has met five times since the signing of the agreement in March, 1984. Under the directorate, various committees were formed to direct the implementation of agreement sub-programs. These include the joint Canada-Manitoba Forest Research Committee; Tree Improvement Committee; Geographical Information System (GIS) Committee; joint Public Information Committee; and joint Program Evaluation Committee.

Program Areas

The agreement was divided into the four major program areas that are further subdivided into a total of 13 sub-programs.

Program A. Forest Renewal

Sub-program 1.	provincial Crown land
Sub-program 2.	Industrial forest management licence areas, private woodlots and federal lands

Program B. Intensive Forest Management

Sub-program 3. provincial Crown land
Sub-program 4. Industrial forest management licence areas, private woodlots and federal lands

Program C. Applied Research, Technology Transfer, Opportunity Identification, and Nursery Development

Sub-program 5. Applied research
Sub-program 6. Technology transfer
Sub-program 7. Opportunity identification
Sub-program 8. Resource data base system
Sub-program 9. Electronics for enhanced protection
Sub-program 10. Nursery development

Program D.

Sub-program 11. Public information
Sub-program 12. Evaluation
Sub-program 13. Administration

Each of the sub-programs under the Canada-Manitoba Forest Renewal Agreement was further subdivided into individual projects. The outputs of each project were recorded in a report entitled "Canada-Manitoba Forest Renewal Agreement Status Report 1984-85."

Summary By Program, 1984-1985

($000's)

Program	100% Provincial		50/50		100% Federal	
	Allotted	Expended	Allotted	Expended	Allotted	Expended
Program A Forest Renewal	$ 585.5	$ 580.7 (99%)	—	—	$ 143.0	$ 127.3 (89%)
Program B Intensive Forest Management	280.0	202.3 (72%)	—	—	291.0	234.6 (81%)
Program C Applied Research, Technology Transfer, Opportunity Identification & Nursery Development	1,662.0	1,558.9 (94%)	620.0	565.0 (91%)	2,212.0	1,885.2 (85%)
Program D Public Information, Evaluation and Administration	6.0	1.1 (18%)	—	—	337.0	186.8 (55%)
	$2,533.5	$2,343.0 (92%)	$620.0	$565.0 (91%)	$2,983.0	$2,433.9 (82%)

Jobs Fund Sectoral Project in Forestry

This project was treated as an extension of the Canada-Manitoba Forest Renewal Agreement and was managed in a similar manner. The four program areas were forest renewal, forest management, nursery development, and administration and public information.

The 1984-85 fiscal year was the first of the five-year project at a total cost of $15.8 million. The actual expenditure for the year was $2,739,400 for 3,113 work-weeks of employment.

Jobs Fund Sectoral Project in Forestry

($000's)

	Allotted	Expended	Variance
Program A Forest Renewal	$ 60.5	$ 59.6 (99%)	$ 0.9 (1%)
Program B Forest Management	2,340.0	2,109.5 (90%)	230.5 (10%)
Program C Nursery Development	508.6	493.6 (97%)	15.0 (3%)
Program D Public Information/Administration	130.0	76.1 (59%)	53.3 (41%)
Total	$3,039.1	$2,739.4 (90%)	$299.7 (10%)

Garrison Focus Office

This office co-ordinates Manitoba's efforts against the construction of the Garrison Diversion Unit as presently designed; acts as a focal point for the activities of the Government of Manitoba in respect to this opposition; and acts as a source of updated information for public and non-government organizations interested in the project.

The Garrison Focus Office was established in February of 1982 as part of an increase in Manitoba's active opposition to the Garrison Diversion Project as authorized. A firm of lawyers specializing in environmental issues in Washington, D.C. was employed to provide advice on how Manitoba's case could best be presented to members of the U.S. Congress. Close liaison with Canadian Embassy staff in Washington ensured that Manitoba's concerns were raised with key members of the U.S. House of Representatives, the Senate and the administration.

The Garrison Diversion Unit Commission was appointed by the U.S. Congress in August 1984 to review the project and recommend means of meeting North Dakota's contemporary water needs while at the same time reducing environmental and international concerns. It held public hearings in North Dakota at Bismark, Fargo and Minot at which the Government of Manitoba expressed its concerns. The Commission's report, issued in December 1984, recommended: the deferral of any irrigation in the Hudson Bay Drainage Basin until Canadian concerns were resolved; a reduction in the amount of irrigation to that which could be delivered through and drained into the James River of North Dakota; the construction of a municipal and industrial water delivery system to meet the needs of the major population centres in North Dakota; and the transfer of Missouri River water to the Hudson Bay Basin for municipal and industrial purposes only after proper treatment to ensure the exclusion of foreign biota.

The Garrison Focus Office monitored both the technical and public meetings of the Commission and assisted several Manitoba organizations and individuals with their presentations.

Legislative proposals to implement the Commission's plan would substantially reduce Manitoba's concerns. The transfer of Missouri River water into the Hudson Bay Basin for irrigation would be deferred but not ruled out by the proposed legislation. It would require that Manitoba's concerns be met prior to the expansion of any irrigation into the Hudson Bay Drainage Basin. The Garrison Focus Office continued to monitor the progress being made towards the approval of the required legislation and the conflict between the State of North Dakota and the U.S. environmental groups as to the form the proposed legislation should take.

Information on the Garrison Project and the work of the Commission was distributed to students, organizations and environmental groups, and presentations were made to such groups on request. American and Canadian newspaper articles were distributed to both Canadian and American citizens to ensure a better understanding of Manitoba's concerns and the progress being made to ensure that adequate consideration is given to these concerns.

Lands

This branch administers Crown land in Manitoba under ***The Crown Lands Act****; maintains a Crown lands register; negotiates outstanding treaty claims and land settlements with Indian bands and the federal Department of Indian and Northern Affairs; and administers the allocation of wild rice licences on Crown land.*

Land Administration

Temporary Dispositions (Leases and Permits)

Cottage lots in approved subdivisions were made available during the annual spring draws, followed by first-come, first-served allocations until October 31st. Remote cottaging opportunities on designated lakes were made available year-round on a first-come, first-served basis. Applications for isolated cottages were reviewed individually under policy guidelines, and residential and commercial applications were reviewed individually on a year-round basis.

Leases, Permits and Licences Administered

	Number	Value
Vacation homes in Parks	5,600	$1,500,000
Vacation homes, residential, commercial and other uses outside Parks	3,067	$ 402,400
Assignments processed	550	
Recordings for collateral	100	
New applications processed	500	

Permanent Dispositions (Sales)

Permanent dispositions of Crown land:	
Orders-in-Council approved	100
Parcels of land involved	456
Long-term Agreements:	
Agreements paid out and land transfered	24
Agreements in effect	89
Conveyance of Mines and Minerals	25

Land transfers are made to Public Works Canada for Federal programs of benefit to Manitoba, and to northern cities and towns for townsite expansion.

Land Sale Revenue 1984-85

Activity	Parcels	Revenue
Agricultural	107	$587,692.50
Primary Residence	115	133,251.50
Recreational	41	178,411.00
Commercial/Other/Term Sale and Interest	138	42,534,16
TOTAL	401	$941,889.16

Appraisals/L.G.D. Exchanges

A total of 125 appraisals were completed during the year. A general review of the 7,000 recreational lots throughout the province was continued.

Two land exchanges with Local Government Districts were completed, and over 50 quarter sections were returned directly to the districts.

Indian Land Claims

Twenty-three Indian bands have validated treaty land entitlement claims stemming from the original signing of the various treaties. These bands are:

Barren Lands
Brokenhead
Churchill
Fox Lake
Garden Hill
God's Lake
God's River
Northlands
Norway House
Oxford House
Red Sucker Lake
Rolling River
Roseau River
Shamattawa
Shoal River
St. Theresa Pt.
Swan Lake
Wasagamack
York Factory

Another five were under review by the federal Department of Indian and Northern Affairs: Fort Alexander, Gamblers, Peguis, Sandy Bay and The Pas.

Consultations with this department and with representatives of the entitlement bands continued in a process intended to lead to a comprehensive agreement on treaty land entitlement in Manitoba.

The survey and transfer of approximately 81 hectares at War Lake were prepared for the War Lake Band. The survey of approximately 890 hectares at York Landing for the York Factory Band was completed, although the transfer of lands was still pending. A request by the Mathias Colomb Band was under review, as well as a transfer of land at Denbeigh Point to the Chemawawin Band under the terms of the Grand Rapids Forebay Agreement.

Regional Land Management

Regional land managers continued to operate in seven regions of the province, providing a local focus for the administration of Crown lands. The Thompson office co-ordinated clearances of land use on behalf of the Department of Northern Affairs. Regional land managers assisted natural resource officers to ensure users of Crown land operate in a manner consistent with their particular terms of use. Land managers also assist in the resolution of competing land claims and uses through co-ordinating committees, Planning District meetings, contact with major user-groups, major Crown land plans, clearance for private subdivisions and gravel removal and lake studies for recreational- and commercial-use conflicts.

Crown Land Registry

Conversion of data from registers to the automated land information system continued. This system used 13 visual display terminals and a printer at head office, and a terminal in the Thompson Regional Office. Twenty per cent of the registry data was entered during the year. Ninety-five per cent of the data has now been transferred to the automated system. The Departments of Municipal Affairs and Agriculture, and Manitoba Hydro have direct access to the data by using their own equipment. Other branches have received data in microfiche and hard copy format.

The automated system continued to be enhanced to meet expanding needs, and provided automated invoices, permits, notices of arrears, and reports.

Wild Rice

A new **Wild Rice Act** and Regulations were proclaimed on March 31st, 1984. This resulted in a new management program for wild rice production through a system of licences and permits.

The new program converted old leases under **The Crown Lands Act** to wild rice licences and processed a two-year backlog of applications. Leases with a record of production were converted to ten-year production licences. Old leases with no record of production and new applications were issued with three-year development or "prove-up" licences. New procedures including buyers' permits, load slips and harvesting permits were instituted.

Supported by an advisory committee with Native representation from the Southeast Resource Development Council, Interlake Tribal Council and the Fort Alexander Indian Band, a new harvest program was developed for the 1984 Whiteshell harvest. The program involved the creation of harvest zones with varying dates for hand harvesting and mechanical harvesters.

The 1984 provincial wild rice crop reached the ten-year average of 620,655 pounds green rice with prices to buyers ranging from $1.26 to $2.00 per pound. A good wild rice crop in northern Manitoba, together with that in the Whiteshell, compensated for a June drown-out in the Nopiming area.

Wild Rice Harvest

	1982	1983	1984
Total Harvest (lbs.)	415,000	335,661	620,655
Lakeside Price (/lb.)	$1.11	$1.48	$1.80
Licences	227	194	341
Harvest Permits	30	11	34
Buyers' Permits	—	—	12

The wild rice test seeding program continued in 1984 by monitoring the 1982 and 1983 seeded sites and by seeding new areas near the communities of Norway House, Cross Lake and Nelson House.

Parks Branch

This branch administers a parks system that provides for the conservation and management of fauna and flora, and the preservation of ecological, cultural, historical and other resources therein; develops facilities and services to meet the recreational needs of the public, and enables Manitobans and visitors to Manitoba to enjoy outdoor recreation; plans and operates park visitor and special user programs; and manages recreational businesses in parks.

Planning

Systems and Management Planning

The implementation of the Park System Plan continued. Phase I includes the designation of Atikaki, as Manitoba's first Provincial Wilderness Park; the redesignation of Beaudry, Spruce Woods and Pisew Falls as Provincial Heritage Parks; and the establishment of Pinawa Dam as a new Provincial Heritage Park. These proposals recognize the need for greater protection of park resources, and the enhancement of interpretive/educational programs for public appreciation of Manitoba's natural and cultural heritage.

A development plan for Beaudry Provincial Park was prepared as a full-colour brochure for distribution to the public. An important aspect of this plan was the identification through public discussion of opportunities for co-operation between the government and the private sector to deliver park programs.

The **Management Plan for Grass River Provincial Park**, covering management for the next ten years, was formally approved by the Minister in November 1984.

Public meetings were held to review the draft **Turtle Mountain Management Plan**, and the background report on Hecla Provincial Park and Grindstone Provincial Recreation Park.

Program Management

Capital Projects

In Asessippi Provincial Park the water distribution system was completed and the food concession upgraded. Both the sewage lagoon and the lodge in Bakers Narrows Provincial Recreation Park were upgraded. The bicycle trail in Birds Hill Provincial Park was extended.

An information kiosk and signs were installed in Camp Hughes Wayside Park, which is north of the Trans-Canada Highway approximately 25 km east of Brandon and 18 km west of Carberry.

In Camp Morton Provincial Recreation Park several monuments were consolidated, historic buildings were stabilized and landscaping was begun.

In Duck Mountain Provincial Park the observation tower at Baldy Mountain was upgraded and interpretive signs were installed. Interpretive signs were also installed along the Shining Stone and Blue Lakes Hiking Trails. The non-modern washrooms at Childs, Blue and Wellman Lakes were upgraded.

In Grand Beach Provincial Recreation Park the fishing dock at the causeway was upgraded. A marsh interpretive trail was also opened.

The campground in Grand Rapids Wayside Park was upgraded, as were the waste disposal facilities at Reed Lake in Grass River Provincial Park. The Grindstone Point Road to Grindstone Provincial Recreation Park was upgraded, and the provision of electrical service to Little Grindstone Point was completed.

Several improvements and additions were completed in Hecla Provincial Park. With the aid of funds provided by Destination Manitoba, the Gull Harbour Resort was extended and major improvements to the Gull Harbour Marina were begun. Other improvements included the installation of showers in the Gull Harbour Campground, and the completion of the Gull Harbour Self-guiding Trail. An observation tower was erected at the southern end of the island, the self-guiding trail at Hecla Village was completed and the vacation cabins were upgraded. Historic buildings were stabilized, roads were improved, and a Visitor Centre was established in the Cantoba Club Building.

New washrooms were installed at Hnausa Beach Provincial Recreation Park. Those at Lundar Beach Provincial Recreation Park, McEwan Wayside Park and Oak Lake Provincial Recreation Park were upgraded.

The Tulabi Falls Canoe Route was established in Nopiming Provincial Park, and the boat dock at Long Lake was improved. In Paint Lake Provincial Park the lodge and sewage lagoon were upgraded.

The site for the Pinawa Dam Heritage Park was cleared and prepared for day use and historical interpretation. At Pisew Falls Wayside Park the walkways and observation platform were upgraded.

The campground at Rainbow Beach Provincial Recreation Park was redeveloped. The pump-house here was also upgraded, as was the sewage dump station in Rivers Provincial Recreation Park.

The development of St. Norbert Heritage Park was continued.

In Spruce Woods Provincial Park interpretive signing and shelters were provided for the Spirit Sands. The Spring Ridge, Oxbow and Isputinaw Self-guiding Trails were upgraded. Horse-drawn wagon rides to the Devils Punchbowl and the Spirit Sands were also introduced. The wildlife management program was continued.

Developments in Turtle Mountain Provincial Park included the relocation of the refuse disposal area, the upgrading of the George Lake Subdivision and the water services to Adam Lake, and the completion of electrical service to Arbor Island.

Playground equipment was installed in Watchorn Provincial Recreation Park and the washrooms there were upgraded. Also upgraded were the electrical service to the campground at Wekusko Falls Wayside Park, and the campground itself at William Lake Provincial Recreation Park.

A boat-sewage pump-out system was established at Winnipeg Beach Provincial Recreation Park. The washrooms there were also upgraded.

The Alfred Hole Goose Sanctuary in Whiteshell Provincial Park was made accessible to wheelchairs. Other improvements in this park included habitat enhancement for sport fishing at Red Rock Lake, Hamilton Creek, Tie Creek and Falcon Rivers, and the management of Tugby and Bear Lakes to establish a trout fishery. Backcountry campsites were cleared and improved, and landfill sites were established. At Nutimik Lake the washrooms were renovated, the museum displays were refurbished, and the beach at the new campground was improved. In the Falcon Lake Townsite the paving was repaired and the water system upgraded. The sewage systems at West Hawk Lake and the campground at Big Whiteshell were upgraded.

Capital Expenditures

($000's)

Major Parks	1981-82	1982-83	1983-84	1984-85
Asessippi Provincial Park	23.0	43.7	29.1	19.6
Beaudry Provincial Park	26.7	—	39.8	38.4
Birds Hill Provincial Park	170.4	163.4	196.2	104.8
Clearwater Lake Provincial Park	48.7	81.9	40.2	19.0
Duck Mountain Provincial Park	93.8	90.5	48.2	51.0
Grand Beach Provincial Park	231.0	189.7	118.8	101.7
Grass River Provincial Park	22.5	10.5	24.9	20.0
Hecla Provincial Park	50.4	138.6	544.4	638.7
Nopiming Provincial Park	50.1	115.4	78.6	48.4
Spruce Woods Provincial Park	474.1	171.9	128.3	111.6
Turtle Mountain Provincial Park	268.9	38.8	42.9	60.6
Whiteshell Provincial Park	678.6	780.8	741.6	542.4

Cost/Revenue Performance by Service[1]

Item	Number	Cost	Revenue	Revenue/Cost
Golf Courses	2	533,068	326,553	61%
Campgrounds[2]	102[3]	2,809,707	1,554,324	55%
Cottages	547.3	1,435,298		25%
Service Fees			363,277	n/a
Rental			1,136,589	n/a
Development Fees			106,269	
Entrance Gates	11	201,943	626,236	310%
Vacation Cabins	34	69,673	76,111	109%
Commercial Concessions, Games Areas and Miscellaneous	150	n/a	364,480	n/a
Non-revenue Areas		5,760,261	n/a	n/a
Total		10,809,950	4,557,129	42%

[1] *Based on maintenance costs only.*

[2] *Increases in fees were approved for camping permits, vacation cabins and cottage services.*

[3] *Camping fees collected at only 75 campgrounds.*

Cost/Revenue Performance by Park

Major Parks	Actual Cost 1984-85 ($000's)	Actual Revenue 1984-85 (All Sources) ($000's)	Revenue/Cost Percentage
Asessippi Provincial Park	201.8	34.9	17%
Beaudry Provincial Park	19.7	40.9	208%
Birds Hill Provincial Park	1,140.6	365.4	32%
Clearwater Lake Provincial Park	327.3	98.8	30%
Duck Mountain Provincial Park	319.5	155.2	49%
Grand Beach Provincial Park	734.1	420.4	57%
Grass River Provincial Park	46.1	32.4	70%
Hecla Provincial Park	922.1	256.3	28%
Nopiming Provincial Park	121.2	115.1	64%
Spruce Woods Provincial Park	624.8	86.9	14%
Turtle Mountain Provincial Park	355.2	29.1	8%
Whiteshell Provincial Park	2,650.9	2,042.9	77%

Summary of Park Revenue

(April 1, 1984 to March 31, 1985)

Park Use	Total Revenue
Park Fees:	
Camping	1,544,324
Park Entrance (Daily)	327,256
Park Entrance (Seasonal)	298,980
Sub-total	$2,170,560
Games Areas:	
Golf Course (Hecla Island)	137,354
Golf Course (Falcon Lake)	189,199
Tennis Court (Falcon Lake)	6,198
Miniature Golf (Falcon Lake)	25,514
Lawn Bowling (Falcon Lake)	3,311
Marina (Falcon Lake)	2,486
Ski Tow (Birds Hill)	35,197
Ski Tow (Falcon Lake)	8,698
Sub-total	$407,957
Rentals/Leases:	
Cabin Rental (Camp Morton)	26,729
Cabin Rental (Hecla)	35,505
Cabin Rental (Ironwood Point)	13,877
Sub-total	$76,111
Permits/Leases:	
Summer Homes	1,499,866
Commercial	187,602
Lot Development Fee	106,269
Land Permits/Leases	40,921
Service Levy (Private Lots)	21,675
Miscellaneous	9,056
Sub-total	$1,865,389
Other:	
Camping (Winter Storage)	6,225
Other Games Area Revenue	789
Laundry Facilities	1,253
Miscellaneous	28,845
Sub-total	$37,112

Beach Patrol

Beach patrol staff provided services at 12 beaches, attended by 1,010,066 users, and were responsible for 43 rescues.

Park Patrol

The park patrol of 90 officers contacted 109,442 visitors in provincial parks.

Visitor Services

More than 1.5 million vehicles entered Manitoba's provincial parks in 1984-85 with vehicle counts in the top ten parks up 4.6% over the previous year. The Papal visit in September attracted over 160,000 visitors to Birds Hill Provincial Park.

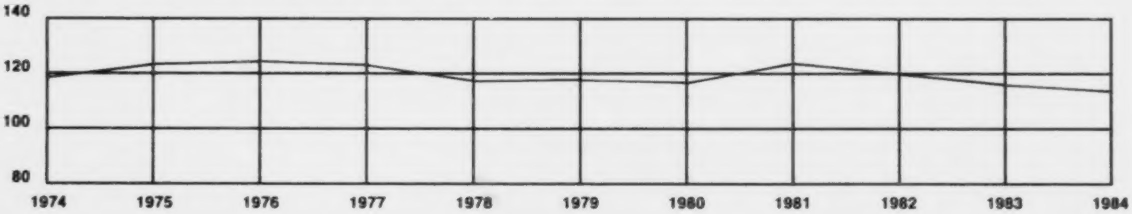
Two new self-guiding trails, White-tailed Deer in Birds Hill Provincial Park and Wild Wings in Grand Beach Provincial Park, were developed. Three existing trails were upgraded. Interpretive signs were installed at Steels Ferry and the Devils Punchbowl in Spruce Woods Provincial Park, along the Turtles Back Hiking Trail in Turtle Mountain Provincial Park, and in an information kiosk in Beaudry Provincial Park. Developments in Hecla Provincial Park included a wildlife viewing blind on the West Quarry Hiking Trail, an observation tower at the southwestern end of the island, and development of signs along the Gull Harbour Hiking Trail.

The Alfred Hole Goose Sanctuary in Whiteshell Provincial Park was made accessible to wheelchairs and the Nutimik Museum was renovated. The Oskar Lake Canoe Route in Turtle Mountain Provincial Park was completed, and the cross-country ski and hiking trails in Beaudry Provincial Park were upgraded.

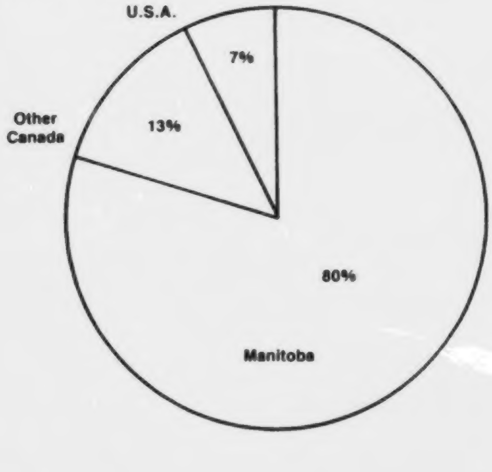
Special winter events included Beaver Days and the Mantario Fun Rally in Whiteshell Provincial Park; the Second Annual Grand Beach Ski Loppet and the Sled Dog Races in Grand Beach Provincial Park; and the Spruce Woods Ski Loppet and Sled Dog Races in Spruce Woods Provincial Park. In addition, four winter "open-houses" were held in Birds Hill Provincial Park, and school interpretive programs were offered both there and in Spruce Woods Provincial Park. Summer programs were again offered in Whiteshell, Birds Hill, Grand Beach, Hecla and Spruce Woods Provincial Parks. The new sound-slide programs produced were **Foundlings, Eskers, and Ice** (glacial origins of Birds Hill), **Duck Mountain Provincial Park, Garden of the Manitou** (wild flowers and shrubs) and **Turtle Mountain Provincial Park**. Existing sound-slide programs were upgraded.

The Canadian Shield Foundation was permitted to use the Falcon Lake Ski Chalet to conduct research during the summer. Also, rides in horse-drawn carriages to the Spirit Sands and the Devils Punchbowl were introduced in Spruce Woods Provincial Park. Under general permit, private operators provided yachts for charter at Hecla Provincial Park, and rides and flying instructions in ultra-light aircraft at the Falcon Lake Marina. Management contracts were signed with local groups for the operation of Overflowing River and Waterhen Ferry Provincial Recreation Parks. A lease was negotiated for the provision for horseback riding in Turtle Mountain Provincial Park. The management and development of Grand Valley Provincial Recreation Park was tendered and a lease awarded for the development of a waterslide on part of the site.

Camping Permits Issued



Origin of Permit Holders, 1984



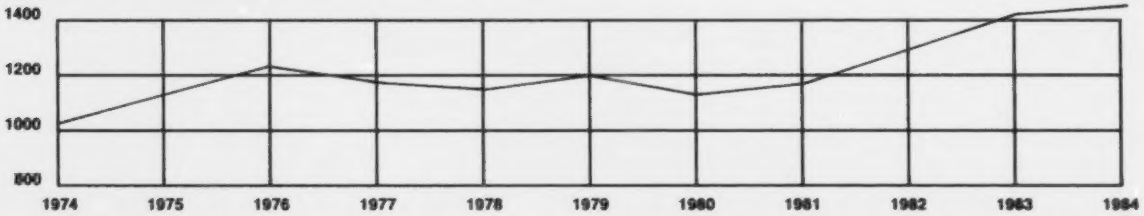
Park Entrance Permits

Year	Daily Permits		Daily Bus Permits		Seasonal Permits		Total Permits	Total Revenue
	Number	Revenue	Number	Revenue	Number	Revenue		
1981*	145,024	211,547.50	77*	850.00	29,496	235,968.00*	174,594	454,365.50*
1982*	141,175	282,350.00	64	770.00	29,635	296,550.00	170,699	479,670.00
1983*	166,380	320,758.00	50	580.00	29,451	294,510.00	189,881	615,948.00
1984*	163,163	326,326.00	45**	1,030.00	29,888	298,870.00	193,144	626,236.00

**Included are revenues and permits collected at Head Office:*
1981 — $470.00
1982 — $630.00
1983 — $490.00
1984 — $430.00
***Included are two seasonal bus permits.*

Vehicle Attendance

(May 15th to September 15th)



Note: *On September 16, 1984 the Papal Mass held in Birds Hill Provincial Park attracted an estimated 160,000 visitors.*

Public Information Services

This branch advises on and co-ordinates communications programs to identify public needs and provide information to the public about resource policies and programs on behalf of the department.

Public information Services acts as a service agency on behalf of the branches. Activities and outputs are generally documented in the description of each resource program elsewhere in this report.

Several ongoing vehicles were used to maintain a departmental presence and to provide quick dissemination of information when required. These include the weekly Resources News radio program; **Conservation Comment**, a bimonthly resource essay; and **The Outsider**, a outdoors newsletter for schools. In addition, weekly radio spots were used on several Winnipeg radio stations to provide up-to-date publicity for resource events.

New in 1984-85 was the Mani-pac program, designed for grades 5 and 6 students to recognize their participation in resource-related activities. Also new was a film, **The Waterhen Wood Bison**, produced and distributed through the film lending library.

Activity Summary

Product/Service	Number
Direct Public Service	
Public inquiries	25,444
Publication requests	3,796
Film loans	1,172
Publicity	
News releases	156
Special events (press conferences, ceremonies)	105
Publications Produced	
New	13
Reprinted	65
Displays Produced	
New	5
Refurbished	5
Signing	
New multi-sign projects	18
Miscellaneous	19
Miscellaneous Printed Materials (posters, crests, etc.)	70

Regional Services

This branch enforces resource Acts and Regulations; delivers and monitors resource management programs and services to the public and other government agencies; administers and operates parks; manages and provides services for wildfire prevention, detection and suppression.

Regional Activities

Northeastern Region

Fisheries
The number of active commercial fisheries decreased to 97 from 101 in 1983. Twenty commercial sturgeon licences were issued. Of the ten commercial fisheries open, only four showed production. Production was the lowest since 1981. Winter fishery was slow until the sharp increase in fish prices on January 24th spurred a greater effort. Fisheries in the Gods Lake Narrows and the Island Lake area slowed down considerably due to high transportation costs.

Summer sport angling was average and Native participation in sport angling increased.

Forestry
Manfor started construction of a new road from P.R. 391 south of Thompson to an area near the Grassy River south of Paint Lake. This road will provide access to a sufficient area to meet the great demand for fuelwood in Thompson.

Timber operations at Nelson House and Pikwitonei produced material mainly for the communities' use.

Parks
The combined Parks and Regional Services Branches' Helitac operation at Paint Lake Provincial Park worked well with both branches benefiting from the staffing arrangement.

The following improvements were made to Paint Lake Provincial Park as funds allowed. A group-use area was developed, and an open area for special events such as baseball and soccer was cleared in conjunction with the park fuelwood production. The winter recreation area received heavy use.

Wildlife
The 1984 moose season was very successful. Hunters took more animals than in previous years.

Geese were abundant on the coast from north of Churchill to the Kaskattama River and provided exceptional hunting opportunities.

Ruffed grouse began to reappear in the region in fairly good numbers, while spruce grouse were sighted even more frequently than ruffed grouse.

Polar bears were not present on the coastline or around Churchill in their usual numbers. Three potential problem encounters, however, were still experienced.

The number of complaints about timber wolves was down considerably in all areas.

The number of complaints received regarding beavers was normal. Complaints were dealt with through the use of special permits and by having registered trappers remove animals.

Enforcement
No major investigations were required, although a substantial effort was put into policing Paint Lake Provincial Recreation Park due to a rash of thefts over the summer. The number of enforcement actions was about normal.

Special Projects
Considerable time was spent developing work permits and inspecting work progress on the hydro-line projects at Pukatawagan, Churchill and Poplar River, and on preliminary discussions regarding the Limestone project.

Northern Flood Agreement involvement tapered off as direct negotiations were made with the various Indian Bands and with Hydro.

Northwestern Region

Parks
Preparations were made for the celebration of the Provincial Parks' 25th anniversary with the co-operation of various community groups. Interest in and use of winter recreational facilities continued to grow. Testing continued to determine the site for the new sewage lagoon in Clearwater Lake Provincial Park. Twenty-five campsites at Wekusko Falls Campground were provided with electrical service.

Wildlife
Meetings regarding the moose harvest were held with various communities and Indian bands. Because of low moose populations greater emphasis was placed on remote, high activity areas.

There were 173 complaints about problem wildlife compared to 146 in 1983.

With the development of Polder III of the Pasquia Project, wolf control continued to be a significant concern.

Enforcement
A significant increase in enforcement effort occurred in 1984 with positive results. In 1983 there were 68 resource-related violations, compared with 121 in 1984. An increase of 100% in infractions of wildlife regulations is indicated, and a 200% increase in charges from abuse of liquor in parks.

Special Projects
The all-weather road to Sherridon provided easier access for residents to sport fishing lakes and timber-harvest operations, and for hunting and mining exploration.

Western Region

Fisheries

A creel census on Lake of the Prairies funded by the federal government assisted by local fisheries staff showed 23% of fishermen were from the parkland area; 28.4% – southwestern Manitoba; 28% – Saskatchewan; 14.6% – Winnipeg; 4.7% Americans; 1.3% other Canadians.

Greater emphasis was placed on fisheries patrols on Lake Winnipegosis. A 97% compliance rate was recorded.

Forestry

The Timber Sales and Quota which had been transferred from Winnipegosis Box and Millworks to the Lake Winnipegosis Development Corp. in June 1983 was in turn sold to Abitibi-Price Inc. in March 1985 by the receiver of the bankrupt Lake Winnipegosis Development Corp. The Quota was for 11,268 m^3 of softwood and 191 m^3 of hardwood.

Parks

Camping unit days increased by 9.1% in the region in 1984-85. Transient camping permits were up 4.2% and renewals up 18%. Senior citizens camping permits for Asessippi Provincial Park totalled 238.

Wildlife

A voluntary Deer Feeding Association was formed in the Swan River area co-ordinated by conservation officers. Some 2,350 deer were fed in the Swan River District, approximately 350 in Asessippi Provincial Park and 1,575 in the Roblin District. The total cost of the Swan River program was $92,808, which includes donations of $65,110.

Elk feeding stations were set up at six major points and approximately 365 animals were fed.

As a precaution against blue tongue virus, 51 Roosevelt elk imported from the U.S.A. were destroyed. The federal Department of Agriculture destroyed 33 of the animals and 18 were destroyed by the Department of Natural Resources.

There was concern about the unauthorized movement of elk across provincial borders and the inadequate inventories maintained.

Enforcement

An inter-district strategy was developed to combat illegal sport fishing, commercial fishing and big-game hunting, as well as unlawful activity and rowdyism in campgrounds. Wildlife-related prosecutions for 1984/85 were up by 31%, and warnings up by 9%.

Fire Prevention

Through visits to 12 schools (3,513 personal contacts), there has been an increased awareness of fire prevention methods and public co-operation. Fires in Indian Reserves and northern communities average eleven per year. These decreased in 1984 to seven.

Volunteer fire crews from Local Government Districts dealt with six fires at no cost to the department.

Southwestern Region

Fisheries

Increased patrolling was undertaken on Lake Manitoba due to the experimental commercial perch fishery using 3"-mesh nets. Thirteen lake patrols were conducted between January 15 and March 21, 1985. This resulted in a total of 88 nets being seized; 5 prosecutions for using small mesh, 1 prosecution for an unmarked net, and one warning for fishing during a closed season.

Forestry

Staff supervised the planting of 21,000 pine trees near Treesbank by 400 pupils.

Parks

Development of facilities at the Devils Punch-bowl and Spirit Sands in Spruce Woods Provincial Park was continued. The project is scheduled for completion in 1985-86.

In co-operation with the contractor, special conditions were set to ensure protection of the environment during oil-drilling operations in Turtle Mountain Provincial Park.

Wildlife

As part of the Manitoba/Canada Beaver Control Program in the Riding Mountain area, dams and beaver were removed. The program continues to be well received by local residents.

To alleviate problems to farmers caused by hungry deer in severe winter condition, staff responded with a program of setting out pelletized deer ration and high quality alfalfa to intercept deer from farmers' haystacks.

Enforcement

Along with regular patrols, several special thrusts were made in areas where illegal activities were suspected.

Special projects were set up to deal with specific enforcement problems in the Russell, St-Lazare, Austin, Carberry and Amaranth areas. A joint effort with the Southeastern Region resulted in 22 charges being laid under **The Wildlife Act**. The regional effort in the Russell/St-Lazare area resulted in 11 charges. The effort in the Amaranth area resulted in 9 charges, which involved nightlighting, hunting in a closed season and trafficking in fish.

Special Projects

A warehouse and chain-link compound were constructed at Shoal Lake to consolidate and secure departmental property.

Eastern Region

Fisheries

Special efforts were made to curb sturgeon poaching on the Winnipeg River and to discourage sport anglers from exceeding creel limits in the remote aircraft-accessible lakes east of Lake Winnipeg.

Forestry

There were 205 forest fires in the region, 110 of which were caused by people. Forty-three of the latter occurred on Indian Reserves. There were 25 convictions under **The Fires Prevention Act**, half of which involved burning peat lands for agricultural purposes.

The "Cut Your Own Christmas Tree" program provided some 5,800 trees, slightly more than in 1983.

Parks

Birds Hill Provincial Park was extremely busy during the summer hosting of the 11th Annual Winnipeg Folk Festival and the Papal Visit. A year of planning and organization by a number of government departments and agencies culminated in a historic and memorable open air mass when Pope John Paul II visited Birds Hill Park on September 16th. There were approximately 160,000 people in attendance that day.

Restoration of the grounds was begun at the Old Pinawa Dam Site. The collection of entrance fees was started at Patricia Beach this year with some $23,000 collected.

Two new interpretive projects were undertaken; the Wild Wings Self-guiding Trail in Grand Beach Provincial Park and the White-tailed Deer Viewing Trail and Observation Tower in Birds Hill Provincial Park.

Wildlife

A new Wildlife Management Area was established at Thalberg.

Four deer feeders were kept stocked all winter at Birds Hill Provincial Park in a continuing effort to keep the animals in the park and prevent them from crossing P.T.H. 59 to forage on floodway lands. An aerial survey revealed 250 animals in this park.

Wild Rice

Wild rice crops in the Bissett area were good on lakes with controlled water levels but poor on uncontrolled lakes. Harvesting was light throughout the region with only 420,000 pounds gathered.

Fire Prevention

Forty-two peat fires burning into the winter months were of considerable concern for health and road safety in the Stead/Pine Falls/Lac du Bonnet areas. It was necessary to take suppressive action on one peat fire.

Special Projects

Efforts continued to improve community services at Little Grand Rapids and Berens River. Two full-time native employees at each of these locations work on resource management projects consisting of creel censuses and surveys, trapline supervision and fire suppression.

Interlake Region

Fisheries

Commercial fisheries patrols were maintained at a high level throughout the district. Officers and the patrol vessel *Siggi Oliver* jointly patrolled all of Lake Winnipeg. An experimental perch fishery on Lake Manitoba using 3" nets resulted in increased patrolling on this lake.

Wildlife

There were 240 problem wildlife occurrences actioned by staff as follows: 52 beaver, 78 bear, 16 wolf, 12 fox, 17 coyote, 22 deer, 20 elk, 11 raccoon, 7 skunk, and 5 other fur bearers. Timber wolf complaints dropped to 16 from 49 in 1983-84, and 19 wolves were removed from the agricultural zone this year, as compared to 42 being destroyed in 1983-84. There were also an additional 160 complaints actioned to prevent waterfowl damage to crops this year. Excellent harvesting weather resulted in most crops being taken off before the major influx of waterfowl occurred.

Fires

The region experienced a severe spring fire season in late April and early May when 43 fires occurred, while the rest of the fire season was fairly quiet. The volunteer fire crews in agricultural areas continued to extinguish many fires on behalf of municipalities and local government districts and to assist with the department's fire fighting efforts.

Enforcement

Incidents of nightlighting showed a dramatic increase with 48 persons being convicted this year, up from 23 in 1983-84. Moose hunting success continued to decline in all areas, except the Riverton burn, where inaccessibility has allowed populations to show a marked increase.

Southeastern Region

Forestry

Trees blown down during a windstorm in 1983 have been almost completely salvaged by way of sales and permits.

Extreme drought conditions resulted in several fires in the Whiteshell area. Investigation into the cause resulted in two prosecutions under **The Fires Prevention Act.**

Parks

Park use throughout the region rose by about 6% over the previous fiscal year. Evictions and liquor-related offences rose dramatically over last year. Vandalism of park facilities remained about the same.

Wildlife
There were 878 complaints about wildlife in 1984-85 compared to 532 the previous year. There were 158 raccoon, 116 beaver, and 88 deer complaints, and the remaining 496 consisted mainly of small animals and birds such as squirrels, skunks, woodchucks, hawks, owls, ravens, crows and swallows.

The number of upland game birds seemed to be increasing slightly from last year. All other game populations appeared to be normal.

Enforcement
Forty staff days of night patrols and 50 hours of aircraft time were expended on enforcement.

There were 36 reports of illegal traffic in wildlife and fish, compared to 30 the previous year. Five persons were convicted.

Whiteshell Region

A major organizational change was the realignment of the Southeastern Region with the Hadashville/Whitemouth, Seven Sisters, Rennie, West Hawk Lake and Falcon Lake Districts, forming the new Whiteshell Region with headquarters at Rennie.

Fisheries
The 3,630 anglers checked indicated good success for bass, fair for walleye, good for sturgeon and fair-to-good for trout. Major fisheries habitat improvement projects were carried out, one each at Rennie River, Red Rock Lake and Rainbow Falls.

Forestry
A total of 77 active timber sales and 31 quota permits were supervised.

Parks
All districts reported increases in the number of park-users charged with liquor-related offences. There was a slight increase in the number of cottages broken into during the winter.

Neighborhood Watch programs have been instituted in all districts. Park use increased slightly in some districts with related violations up as well. Fewer campers used the Pine Grove Halt Wayside Park than in the previous year. However, park use remained high with stops made by 23,390 cars and 13,707 trucks.

Wildlife
A total of 163 incidents concerning wildlife were dealt with. Of these, 75% were related to bears in campgrounds and cottage subdivisions.

Resource Management Assistants Program

The R.M.A. Program, to promote local hiring for regionally-based departmental positions, was in its second year of operation.

During that time, six R.M.A.'s were trained in fire management, trapline administration, forest management, along with fisheries and wildlife technology based on training modules developed earlier. Candidates were recruited from Dauphin, Skownan, Little Grand Rapids, Moose Lake, Cross Lake and Nelson House. The training of a further five R.M.A.'s will be completed in 1985 with an expansion of the program into South Indian Lake and Churchill.

Conservation Officer Training — Northern Flood Agreement

In May of 1983, the department, in conjunction with the Department of Education, Department of Labour and Manpower, and Department of Northern Affairs initiated action on Article 15.7 of the Northern Flood Agreement which provides for the training of local people in order that they can become qualified as conservation officers or resource technicians.

During 1984, the Department of Natural Resources continued to work with the Departments of Education, Labour & Manpower and Northern Affairs to meet the contractual obligations in Article 15.7 of the Northern Flood Agreement which provides for the training of local people as conservation officers and/or resource technicians.

In September 1984, five candidates who had previously received upgrading and seasonal employment with the department were enrolled in the first year of a two-year Renewable Resource Technology Course at Keewatin Community College in The Pas. They will work at various seasonal jobs in the summer of 1985 depending on their interests, and will begin their second year in the fall.

Originally there were seven candidates enrolled in the program. Plans are being made with the Departments of Northern Affairs and Labour & Manpower to upgrade and enroll two new candidates in September 1986.

Polar Bear Alert Program

The Polar Bear Alert Program during the fall ended abruptly due to an early freeze-up.

Before the 1984 season, the following activities were undertaken to improve the program:

i. hiring of additional local staff through the Resource Management Assistants Program;
ii. additional patrol vehicles during peak periods;
iii. expanded educational programs for schools and the general public; and
iv. frequent and regular meetings with the mayor and council of Churchill to discuss polar bear management and the Alert Program.

As a result of the meetings with the mayor and council, changes to the program involved an extension of the control area, and expansion of the education program for both schools and the general public to promote safety during the polar bear season.

Fire Management and Communications

The dry weather conditions in the fall of 1983 continued throughout the winter. The moisture content was only 33% of normal in southern regions of the province and ground-water levels dropped to near 19% of normal. An early spring break-up, lack of spring rains, and above-normal temperatures contributed to one of the earliest fire seasons on record. The first fire was reported on April 3rd, and by April 8th there were 19 fires. Daytime temperatures were already up to 12°C. Rain arrived on April 11th and 12th. On April 19th temperatures reached a high of 22°C, and by April 24th 60 fires had been reported. All these fires were of the expected spring grass type but, because of high winds and unusually dry fuel, most fires were difficult to contain and became very large. Some private property was lost to one or two fires as a result. By the end of April, 146 fires had burned over 24,636 hectares and had cost $646,600 to suppress. Ninety-four of these fires were reported over the Easter weekend alone.

Because of light rainfall, normal conditions were approached by the middle of May, but a return to dryer, warmer air and increased fire starts resulted in travel restrictions in eastern Manitoba and Whiteshell Provincial Park for the Victoria Day long weekend. The week of May 15th to 21st resulted in 49 new starts, a reported loss of 16,917 hectares and suppression costs of $645,200. By the end of May, 212 fires had been reported burning over 25,159 hectares of forested and non-forested land. By that time $1,604,300 had been expended for fire suppression. Summer was upon the region with heavy costs yet to be met.

Rainfall was generally light and below normal throughout the summer months. Fortunately, though fuel and weather conditions were conducive to fire, no significant electrical storms occurred during June and July. The result was a return to long-term average fire starts and losses during these months.

Over the August long weekend, above-normal fire starts (55) occurred, 26,351 hectares were burned, and $891,700 was spent on suppression. Lightning storms without rain throughout the month ignited 95% of the fires. The drying trend continued and again, on the Labour Day weekend, travel restrictions were placed in Nopiming Provincial Park and areas north of the Winnipeg River. The week ending September 4th resulted in a loss of a further 27,189 hectares and an additional expenditure of $987,600 on fire suppression.

In all, fire conditions in 1984 and fire-fighting expenditures brought the total projected expenditures to more than $11 million for the fire-year.

A detailed analysis of the initial attack forces, helitac and firetac, showed that these crews dealt with 371 fires during 1984 which destroyed an average of 21.7 hectares per fire. Extra fire-fighting forces were employed on 321 fires which burned over 122,006 hectares or 380.08 hectares per fire.

Medium Lift Helicopter Use (1984)

Base	Flying Time (Hours)	
	1984	Average Use*
Bissett	94.1	188.4 (3 year)
Paint Lake	186.5	151.0 (2 year)
Wekusko	115.1	147.3 (3 year)

(Medium lift helicopters are used for crew transportation at each Helitac base. The Helitac program has been in place at Bissett and Wekusko Falls for three years and at Paint Lake for two years.)

Aircraft Operations

Total flying time this year amounted to 9,313.4 hours and cost $4,437,778.60. Prior to the fire season, the use of 13 aircraft was arranged on a contract basis. They included six Cessna 337's and a Cessna 180 for detection, along with three Bell 206's and three Bell 204's for suppression. In addition, three CL-215's, five Turbo Beavers, two Otters and a standard Beaver operated by the Air Division were made available on a first-right-of-refusal basis. Helicopters were acquired on an availability basis which resulted in savings of approximately $100,000. Casually hired aircraft supplemented contract aircraft as required to meet local fire situations.

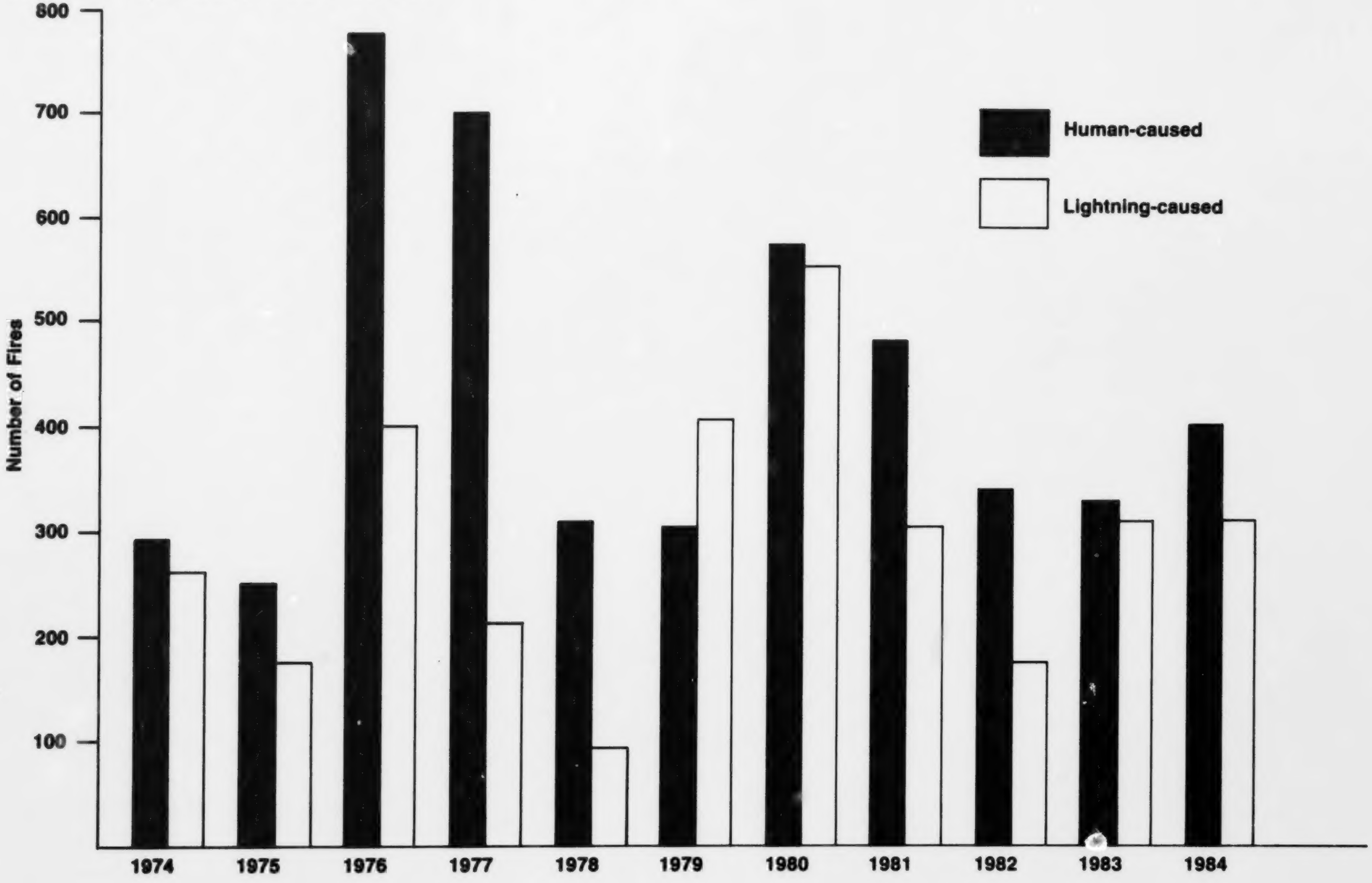
The lightning detection system again had a great impact on the traditional aerial detection routes. Information received from the system became the primary guide. The total air detection program flew 1,751.2 hours at a cost of $233,539.

The CL-215 waterbombers flew a total of 653 hours during the season and dropped 3,917 loads amounting to 20,681,760 litres of water. This represents a cost of $298.33 per drop or 5.65¢ per litre. By comparison, the 67.5 hours flown by casually hired Canso waterbombers dropped 640,640 litres of water at a cost of 12.3¢ per litre. The CL-215's dropped an average of 31,671.9 litres per hour while the Cansos averaged only 10,152.7.

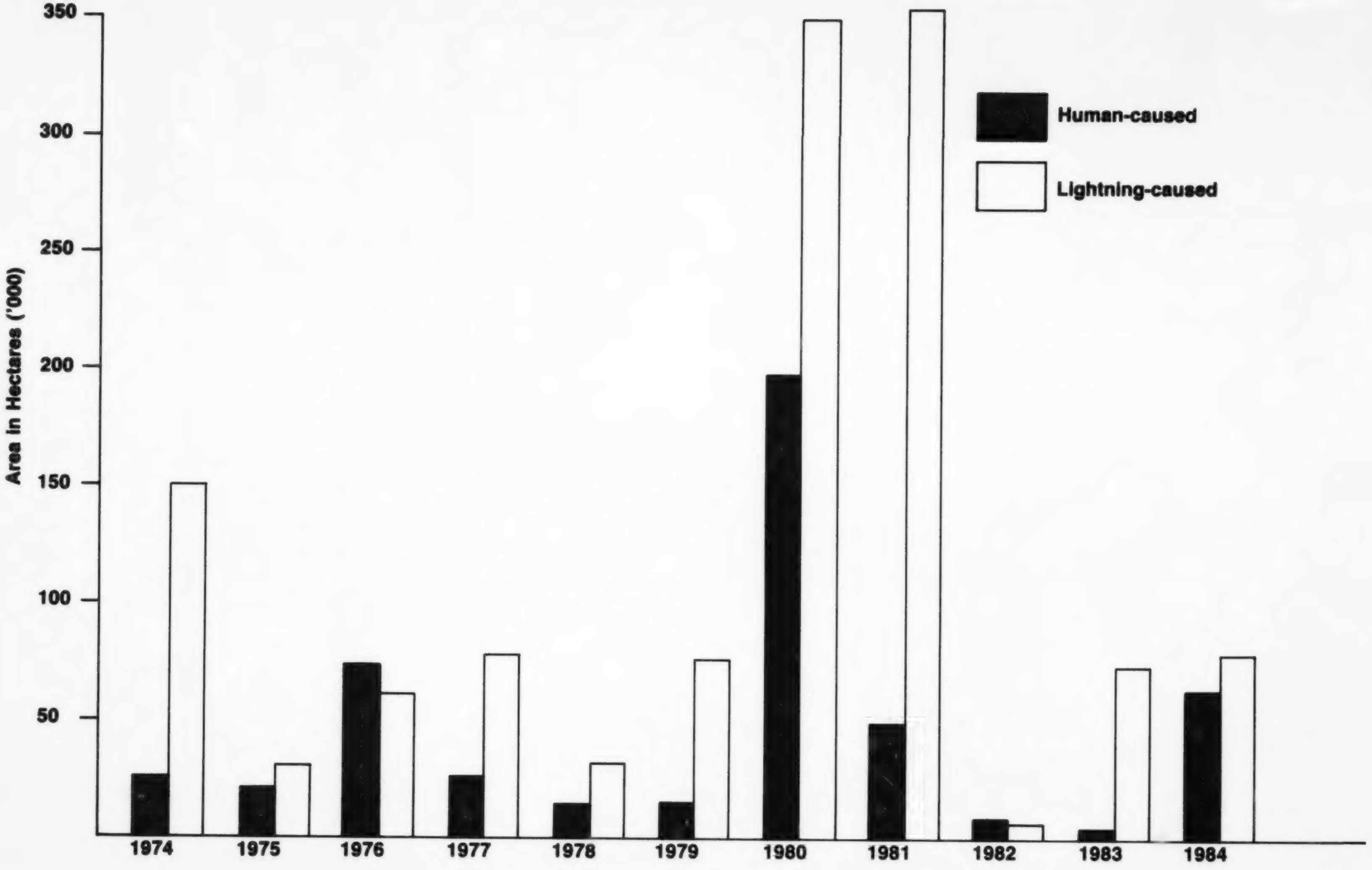
1984 Fires

	Number of Fires		Percentage		Area Burned (Hectares)		Suppression Cost	
	1984	5-Yr. Avg.	1984	5-Yr. Avg.	1984	5-Yr. Avg.	1984	5-Yr. Avg.
Cause								
Agriculture	88	47	12.7	6.8	34,059.4	10,149.0	512,234.0	175,700.0
Incendiary	33	86	4.7	12.6	4,393.2	13,653.0	605,625.0	346,129.0
Miscellaneous	5	22	0.7	3.2	6.0	1,824.0	11,861.0	87,422.0
Other Industrial	6	6	0.8	0.9	38.9	128.0	6,039.0	131,872.0
Public Projects	15	9	2.1	1.3	185.5	170.0	31,787.0	33,007.0
Railways	31	23	4.4	3.4	622.8	1,274.0	209,490.0	113,924.0
Recreation	80	82	11.5	12.0	3,410.2	10,446.0	688,004.0	322,002.0
Settlement	142	116	20.5	17.0	7,742.1	180,095.0	551,076.0	339,163.0
Woods Operations	5	4	0.7	0.6	4.5	50.0	5,661.0	22,067.0
Human - caused	405	396	58.5	59.7	50,462.6	55,781.0	$2,621,777.0	$1,465,792.0
Lightning - caused	287	283	41.4	40.3	79,726.6	171,277.0	$4,715,093.0	$5,094,975.0
Total	692	679	100.0	100.0	130,189.2	227,059.0	$7,336,870.0	$6,560,768.0

Number of Fires, 1974-1984



Area Burned, 1974-1984



Prevention

Four seasonal fire prevention officers worked in the areas of the province where the forest and agricultural zones meet. Their primary function was to make direct contact with persons and groups using these areas. In addition these patrolmen organized and monitored the volunteer fire crews and monitored burning under permit.

The province's Volunteer Fire Crew Program continued in the agriculture-forest fringe area and also involved some cottage subdivisions. During April, the Interlake Region used these crews successfully to control and extinguish several fires.

Staffing support was given to the Manitoba Forestry Association Centre at Hadashville which hosted approximately 11,000 students. Assistance was also provided to the Manitoba Forestry Association and the Royal Canadian Legion at Hodgson, Manitoba to establish and operate a second interpretive centre located within the Interlake Region.

Manitoba continued to use Smokey Bear as its fire-prevention symbol and purchased materials from the Canadian Forestry Association for distribution to the public. To honour Smokey's 40th birthday, postage meter blocks were changed to commemorate the occasion, and were again distributed to government mailing centres for use during the fire season to spread the message, "Prevent Forest Fires."

A change was made this year in the news media fire prevention program. Rather than contracted advertising on radio stations and local newspapers, 15,000 copies of a mailer entitled **Timely Advice on a Burning Subject** were printed and 12,000 were mailed to all residents on the agriculture-forest fringe. Full page advertisements were placed in the **Manitoba Co-operator** and the **Country Guide** in the spring and fall promoting the theme of **Timely Advice on a Burning Subject** to farmers who normally subscribe to these magazines. This change did not have a significant impact in reducing the total number of person-caused fires. In fact, the agricultural communities to which the message was directed were responsible for a greater number of wildfires than the five-year average.

Training

Formalized training courses were conducted in Fire Management (Level 3, 13 staff; Level 4, 21 staff) and Infra-red Detection Operation (12 staff).

In addition, the regional administration provided on-the-job training to the 133 firetac personnel, 70 helitac personnel and 129 fire rangers employed on a seasonal basis.

The **Fire Training Manual** for firetac crews was completed in draft form and distributed to the regions. Final revisions are to be made after the 1985 fire season.

Publications

A **Fire Control Notebook** was produced for fire-suppression personnel in Manitoba. Also, preliminary work began on an index for the **Fire Management Operations and Procedures Manual.**

Equipment Development

The addition of a hose-drying tower at Wekusko Falls improved the capacity to keep hoses operational. It was used to dry and repair the fire hoses used in late August and early September in the southern areas of the province.

Enhancement of the fire-suppression operation was supported by the Canada/Manitoba Forest Renewal Agreement. The following were acquired:

i. micro-computer network;
ii. portable emergency radio repeater kits;
iii. lightning location equipment at three new sites;
iv. weather equipment; and
v. two AGA/782 infra-red detectors

New equipment purchases were minimal. Three 2,500-gallon fuel bladders were purchased to be used in conjunction with the existing fuel-pumping system on project fires.

The Northwestern Region completed a project-fire field kitchen and field office. It was used for the first time on the Connolly Lake fire, supplying meals to over 120 men daily, well above the original design to support 50 men.

Special Interest

After the outbreak of fire during the long weekend in September 1983, the Deputy Minister of the Department of Natural Resources convened a board of inquiry into the fires in the Eastern Region. The board conducted its inquiries through the winter of 1983-84 and released its findings and recommendations on August 3rd 1984. On the basis of the Deputy Minister's approval of the board's findings several changes will be made for 1985. Some of the key areas being

i. fire-alert and response system;
ii. regional project fire and support teams;
iii. upgraded communications;
iv. development of a departmental fire response plan;
v. development of a more comprehensive training plan;
vi. co-ordination of the capability of communities to evacuate, and the definition of the role of the Manitoba Emergency Measures Organization;
vii. identification of priorities of values at risk; and
viii. clarification of roles and responsibilities.

Several of these areas of concern were addressed in 1984, the most important being a fire-priority map and the initial development of a fire-alert system based on the build-up index. Also during the season, work began on a preliminary department-wide response plan with the development of the **Manitoba Natural Resources Fire Management Personnel Inventory and Standards Manual.** This included the classification of staff in the department into fire-management positions to be seconded as required.

Other Programs and Activities

The branch drafted legislation for various other branches and agencies during the year. These included amendments to **The Wildlife Act, The Fires Prevention Act, The Provincial Park Lands Act, The Fisheries Act** (Manitoba) and **The Ecological Reserves Act.** Regulations under **The Wildlife Act, The Provincial Park Lands Act, The Fisheries Act, The Canada Shipping Act** and Orders of the Minister under **The Manitoba Fishery Regulations** were also prepared and enacted.

Other programs and activities administered by the branch included the Problem Wildlife Program, the Intercept Deer and Elk Feeding Program, the Timber Wolf Control Program, and the Birds Hill Tree Nursery from which planting stock was supplied to provincial parks, campgrounds and golf courses, and for landscaping around provincial buildings, the Hunter Killed Livestock Compensation Program, the Hunter and Firearm Safety Program, the Bowhunting Training Program and the Guide Training Program.

The operation of the tree nursery at Birds Hill was terminated at the end of March 1985.

Livestock Compensation Program

	Claims			Payment		
Year	Received	Denied	Withdrawn	Paid	Average Paid	Total Paid
1979-80	5	4	0	1	$ 609.50	$ 609.50
1980-81	8	3	2	3	763.17	2,289.50
1981-82	21	10	0	11	572.73	6,300.00
1982-83	23	11	0	12	1,125.00	13,500.00
1983-84	26	15	1	10	1,051.80	10,518.00
1984-85	8	2	1	5	499.80	2,499.04

Hunter and Firearm Safety Program

Calendar Year	Students	Total To Date	Instructors[1] Certified
1979	3846	74,242	47
1980	3905	78,147	51
1981	4641	82,788	63
1982	4460	87,248	45
1983	3315	90,563	58
1984	4150	94,713	47

[1] *There is a turnover of approximately 50 volunteer instructors each year. There is an average of 450 instructors each year.*

Firearm Accidents

Calendar Year	Accidents				Fatalities		
	Hunting	Non-hunting	Total	Average Shooter Age	Hunting	Non-hunting	Total
1979	18	9	27	27.8	0	2	2
1980	9	13	22	28.4	1	2	3
1981	24	10	34	23.5	2	2	4
1982	13	7	20	27.1	0	1	1
1983	8	12	20	27.6	2	3	5
1984	13	3	16	26.1	2	0	2

Bowhunting Training Program

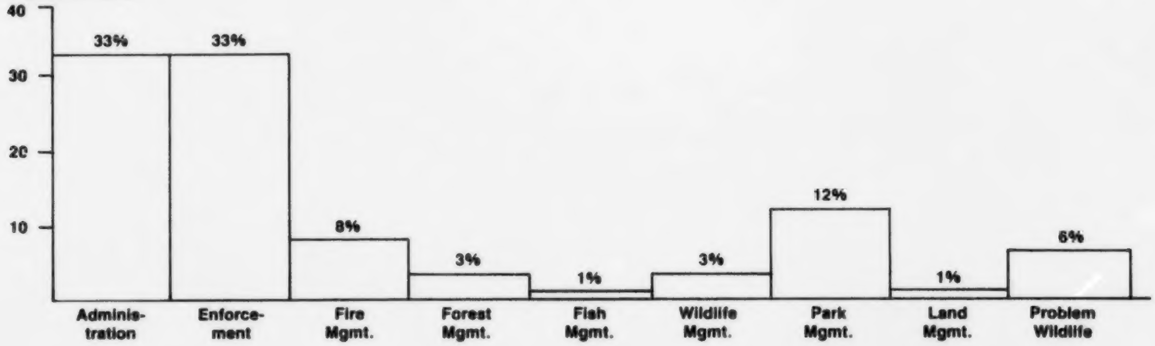
Fiscal Year	Students	Total To Date
1980-81(1)	74	74
1981-82	228	302
1982-83	76	378
1983-84	64	442
1984-85	34	476

(1) First year of voluntary Program

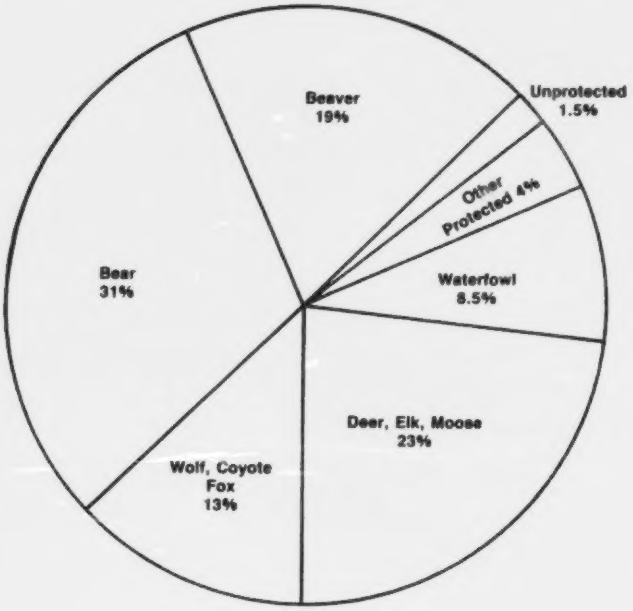
Guide Training Program

Year	Number Of Courses	Guides Trained	Total To Date	Licences Issued
1979-80	5	116	429	558
1980-81	5	87	516	610
1981-82	5	112	628	615
1982-83	4	91	719	775
1983-84	5	97	816	753
1984-85	1	21	837	937

Natural Resource Officer Provincial Time Distribution Chart, 1984-85



Distribution of Officer Time Expended on Problem Wildlife, 1984-85



Problem Wildlife Occurrences, 1984-85

Species	Region							Species Total	Per Cent Of Total
	NE	NW	SE	SW	E	Int.	W		
Beaver	7	13	145	242	22	55	499	983	28.5
Bear	104		212	62	123	86	192	838	24.5
Elk			1	26		21	62	110	16.0
Moose				2	1		1	4	
Deer			91	261	2	22	53	429	
Wolf	23	6	5	9	3	20	25	91	2.5
Coyote		1	13	38		20	22	94	4.0
Fox	1	1	3	1		15	13	34	
Waterfowl		61	23	32	2	125	52	295	8.5
Other Fur	1	1	217	17	6	12	21	275	8.0
Other Protected	1	2	43	17	5	25	10	103	3.0
Unprotected	1	19	65	35	5	33	22	180	5.0
Total	138	163	818	742	169	434	972	3436	100.0

Summary of Recorded Violations, 1984-85

Legislation Contravened	Disposition							Total Offences	Percentage Increase or Decrease[1]
	Prosecutions						Written Warnings		
	Guilty	Dismiss	Stay	Withdraw	Adjourn	Total			
Liquor Control	780	3	24	2	2	811	99	910	+44
Fisheries	426	8	34	7	—	475	385	860	−13
Wildlife	465	11	84	1	—	561	188	749	−4
Provincial Park	97	3	20	1	—	121	525	646	−4
Highway Traffic	136	1	11	2	—	150	136	286	+18
Fires Prevention	39	2	8	—	—	49	23	72	−15
Migratory Birds	30	1	10	—	—	41	17	58	+12
Forest	11	1	2	—	—	14	37	51	−25
Clean Environment	20	—	2	—	—	22	16	38	−3
Snowmobile	15	1	—	—	—	16	13	29	−38
Criminal Code	11	—	11	—	—	22	3	25	−34
Petty Trespass	3	—	—	—	—	3	12	15	+67
Crown Lands	3	—	—	—	—	3	9	12	+200
Small Vessels	—	—	—	—	—	—	3	3	−63
Wild Rice	2	—	1	—	—	3	—	3	N/A
Game Export	1	—	—	—	—	1	—	1	N/A
Water Rights	1	—	—	—	—	1	—	1	N/A
Young Offenders	—	—	—	1	—	1	—	1	N/A
TOTAL:	2040	31	207	14	2	2294	1466	3760	+2
	3760								

Fines: $197,654.75 (+50%)[1]
Costs: $33,969.14 (170%)[1]

Warnings: 1466 (−4%)[1]
Prosecutions: 2294 (+7%)[1]

[1] *As compared to the previous fiscal year, 1983-84.*

Most Common Violations Under The Liquor Control Act, 1984-85

Nature of Offence	Guilty	Dismiss	Stay	Withdraw	Adjourn	Warn	Total
Unlawful Possession of Liquor	757	2	20	2	—	99	880
Unlawful Possession by Minor	12	1	—	—	2	—	15
Obstruct Officer	7	—	2	—	—	—	9
Consume/Intoxicated in Public	1	—	—	—	—	—	1
Show Cause (Seized Liquor)	2	—	2	—	—	—	4
Other	1	—	—	—	—	—	1
TOTAL	780	3	24	2	2	99	910

Total Fines: $46,029.00
Average Fine: $59.16 (+24%)

Total Costs: $9,129.00

Most Common Violations Under The Wildlife Act, 1984-85

Nature Of Offence	Guilty	Dismiss	Stay	Withdraw	Adjourn	Warn	Total
Loaded Firearm	125	—	3	—	—	6	134
Nightlighting	85	9	20	1	—	2	117
Possess Illegally Taken Animal	54	—	22	—	—	3	79
Hunt Without Licence	19	—	5	—	—	13	37
Hunt On Private Land W/O Permission	20	1	2	—	—	12	35
Hunt Out Of Season	22	1	5	—	—	1	29
Other	140	—	27	—	—	151	318
TOTAL	465	11	84	1	—	188	749

Total Fines: $101,591.00 Total Costs: $17,611.00
Average Fine: $218.48 (+70%)

Most Common Violations Under The Fisheries Act (Canada), The Freshwater Fish Marketing Act and The Fisheries Act (Manitoba), 1984-85

Nature Of Offence	Guilty	Dismiss	Stay	Withdraw	Adjourn	Warn	Total
Sport Fishing							
Fail to Carry/Produce Licence	13	—	3	—	—	204	220
Sportfish without Licence	73	—	4	—	—	40	117
Angle with Too Many Lines	58	—	—	—	—	7	65
Fish within 25 Yards of Fishway	39	4	1	—	—	19	63
Exceed Limit	49	1	1	4	—	3	58
Unattend Line/Fish	27	—	1	—	—	8	36
Commercial Fishing							
Fail to Comply with Permit Conditions	26	—	5	—	—	10	41
Small Mesh Nets	20	—	1	—	—	2	23
Commercial Fish without Licence	12	—	—	—	—	6	18
Fail to Remove Equipment	—	—	—	—	—	14	14
Fail to Mark Equipment	5	—	1	—	—	5	11
Decayed Fish	7	—	1	—	—	1	9
General/Domestic Fishing							
Fish during Closed Season	32	3	2	—	—	13	50
Fish/Possess Fish other than In Accordance With Act/Regulations	25	—	3	—	—	6	34
Other	40	—	11	3	—	47	101
TOTAL	426	8	34	7	—	385	860

Total Fines: $28,811.00 Total Costs: $3,965.00
Average Fine: $67.63 (−5%)

Most Common Violations under The Provincial Park Lands Act, 1984-85

Nature of Offence	Guilty	Dismiss	Stay	Withdraw	Adjourn	Warn	Total
Create Disturbance/Cause Mischief	34	2	11	1	—	305	353
Illegal Parking	11	—	4	—	—	52	67
Unauthorized Fire	25	—	—	—	—	36	61
Operate Vehicle in Non-Designated Area	9	—	1	—	—	26	36
Camp in Unauthorized Area	1	—	—	—	—	15	16
Damage/Deface Park/Public Property	3	1	2	—	—	9	15
Other	14	—	2	—	—	82	98
TOTAL	97	3	20	1	—	525	646

Total Fines: $5,655.00
Average Fine: $58.30 (+15%)

Total Costs: $1,095.00

Most Common Violations under The Highway Traffic Act, 1984-85

Nature of Offence	Guilty	Dismiss	Stay	Withdraw	Adjourn	Warn	Total
Speeding	33	—	—	—	—	36	69
No/Improper Helmet	6	—	—	—	—	28	34
Disobey Traffic Control Device/Signal	16	—	1	—	—	15	32
Imprudent Driving	15	—	2	—	—	4	21
Drive without Licence	12	—	1	—	—	4	17
Ride in Unsafe Manner	7	—	—	—	—	9	16
Other	47	1	7	2	—	40	97
TOTAL	136	1	11	2	—	136	286

Total Fines: $7,478.00
Average Fine: $54.99 (+6%)

Total Costs: $1,150.00

Comparison of Wildlife[1] and Fishery[2] Prosecutions, 1975-1985

Fiscal Year	Wildlife	Fishery
1975-76	492	422
1976-77	463	315
1977-78	698	276
1978-79	804	321
1979-80	782	370
1980-81	438	446
1981-82	897	597
1982-83	557	475[3]
1983-84	634	555[3]
1984-85	602	475[3]

[1] *Includes violations under* ***The Wildlife Act*** *and* ***The Migratory Birds Convention Act.***

[2] *Sportfish violations only are shown for 1981-82 and earlier.*

[3] *Includes* ***The Fisheries Act*** *(Canada) and* ***The Fisheries Act*** *(Manitoba).*

Resource Allocation and Planning

This branch directs an integrated and co-ordinated approach to natural resources allocation and planning; plays a lead role in allocation and planning of Crown land; administers the department's ecological reserves program; assists in providing a comprehensive outdoor recreation and tourism program; and formulates and reviews broad departmental program strategies.

Ecological Reserves

Major efforts were directed at inventorying three existing reserves to upgrade baseline data. This inventory, based on a five-year cycle, is to record natural changes in reserves and in the ecosystems they represent. It also provides background data for future research and educational activities.

Data collected in the Pocock Lake Ecological Reserve near Marchand provided information to scientifically substantiate earlier general observations. This led to the conclusion that the reserve is an excellent example of a wetland plant succession, a type of succession that eventually fills in a lake and establishes a plant community characteristic of the surrounding forests. The map of Pocock Lake shows the major plant communities that are part of such a change which usually takes many thousands of years. However, the topography of the Pocock Lake Ecological Reserve makes it possible to observe all stages of this change in a few hours and, therefore, provides an excellent site for natural history education.

Work was continued to locate new areas for consideration as possible ecological reserves. Emphasis was placed on the aspen parkland ecosystem which, historically, was a common element of Manitoba's landscape. The year's work indicated that typical aspen parkland is, in fact, surprisingly scarce and that several types of aspen parkland may exist.

Branch staff served in an executive role on the Canadian Council on Ecological Areas. Direct financial support was provided for the first time to this inter-jurisdictional forum.

The Ecological Reserves Advisory Committee greatly assisted the ecological reserves program in the province.

Crown Land and Resource Planning

Northern Planning

The branch is responsible for Crown land overview planning in northern Manitoba, intended to co-ordinate Crown land and resource management through the preparation of interdisciplinary land-use plans. Three major program areas were considered during the year.

Summary of Activities

Plan Area	Status	Comments
North Interlake	Plan Approved	Overview land-use plan completed
Flin Flon Periphery	Progressing	Background information collected; local interest groups consulted on planning process and local issues
Churchill Region	Progressing	Branch an active member of the planning task force; final report submitted in September; recommendations under consideration

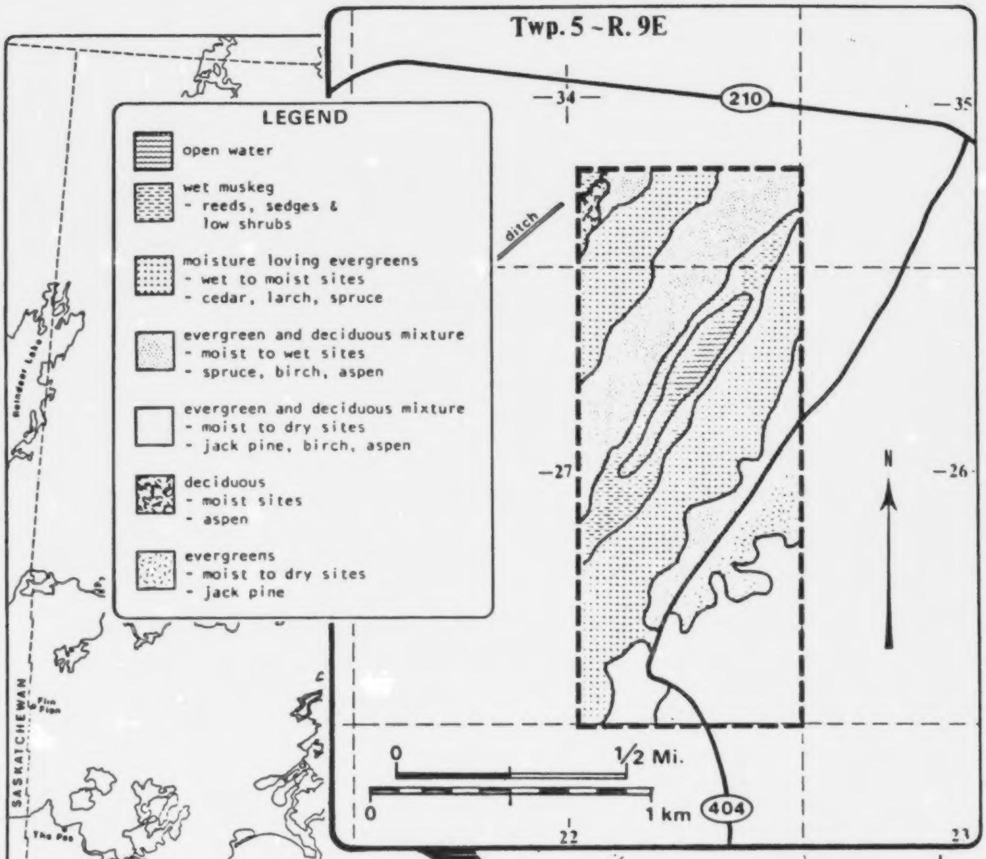
Southern Planning

In southern Manitoba, planning for Crown land use is the responsibility of the Crown Land Classification Committee which reports to the Provincial Land Use Committee of Cabinet. Regional committees, known as Bloc Planning Committees, report to the Crown Land Classification Committee and are responsible for classifying Crown land at the local level.

The branch is a member of the Crown Land Classification Committee and also provides the Committee's secretariat and planning staff.

The Crown Land Classification Committee's area of responsibility was extended in 1984 to include the Northern Interlake Region where development pressures have intensified.

Three Crown land classification plans were approved during the year, three were in various stages of development and two special land-use studies were begun. The accompanying table lists the areas covered by these reports.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26
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0
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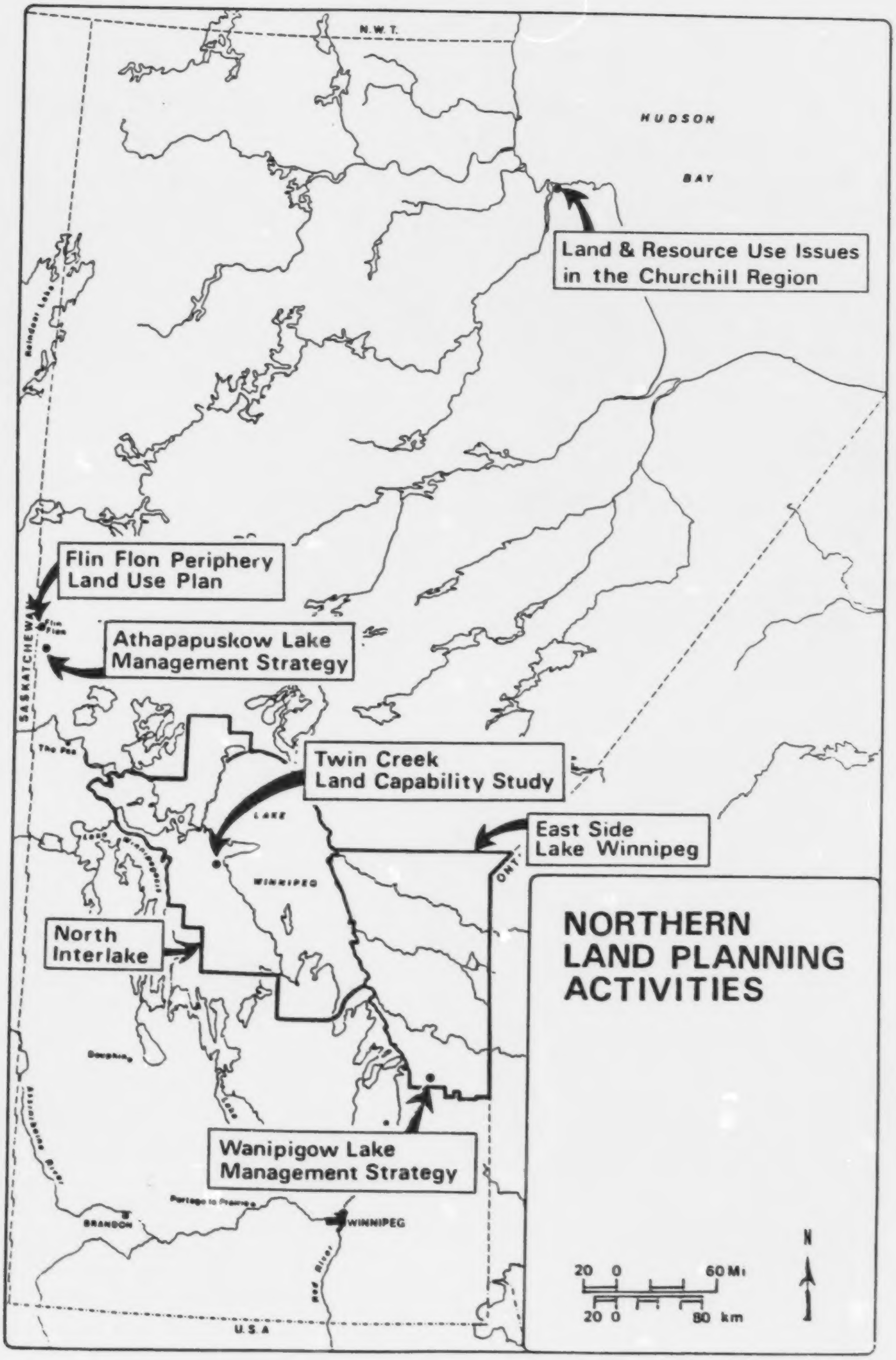
404
22
23
LEGEND
open water
wet muskeg
- reeds, sedges &
low shrubs
moisture loving evergreens
- wet to moist sites
- cedar, larch, spruce
evergreen and deciduous mixture
- moist to wet sites
- spruce, birch, aspen
evergreen and deciduous mixture
- moist to dry sites
- jack pine, birch, aspen
deciduous
- moist sites
- aspen
evergreens
- moist to dry sites
- jack pine
Reindeer Lake
SASKATCHEWAN
Flin Flon
The Pas
Lake Winnipegosis
LAKE
WINNIPEG
ONTARIO
Dauphin
Lake Manitoba
Assiniboine River
Portage la Prairie
BRANDON
WINNIPEG
Red River
U S A

POCOCK LAKE ECOLOGICAL RESERVE



NORTHERN LAND PLANNING ACTIVITIES

N.W.T.
HUDSON
BAY
Land & Resource Use Issues in the Churchill Region
Reindeer Lake
Flin Flon Periphery Land Use Plan
Flin Flon
Athapapuskow Lake Management Strategy
SASKATCHEWAN
The Pas
Twin Creek Land Capability Study
LAKE
WINNIPEG
Lake Winnipegosis
East Side Lake Winnipeg
ONT.
North Interlake
Dauphin
Lake
Assiniboine River
Wanipigow Lake Management Strategy
Portage la Prairie
BRANDON
WINNIPEG
Red River
U.S.A
20 0 60 Mi
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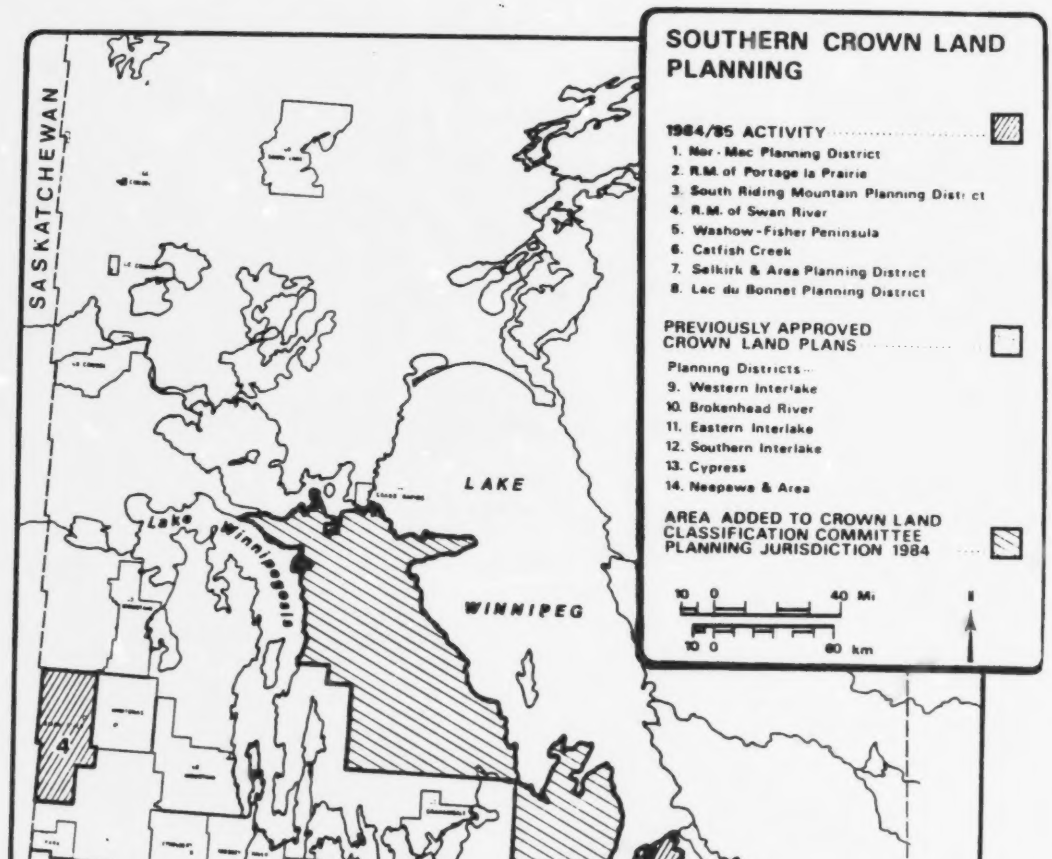
SOUTHERN CROWN LAND PLANNING
1984/85 ACTIVITY
1. Nor-Mac Planning District
2. R.M. of Portage la Prairie
3. South Riding Mountain Planning District
4. R.M. of Swan River
5. Washow-Fisher Peninsula
6. Catfish Creek
7. Selkirk & Area Planning District
8. Lac du Bonnet Planning District
PREVIOUSLY APPROVED CROWN LAND PLANS
Planning Districts
9. Western Interlake
10. Brokenhead River
11. Eastern Interlake
12. Southern Interlake
13. Cypress
14. Neepawa & Area
AREA ADDED TO CROWN LAND CLASSIFICATION COMMITTEE PLANNING JURISDICTION 1984
10 0 40 Mi
10 0 60 km
N
SASKATCHEWAN
ONTARIO
U.S.A.
LAKE
WINNIPEG
Lake Winnipegosis
Lake Manitoba
1
2
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6
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11
12
13
14

Summary of Activities, Crown Land Classification Committee

Plan Area	Status	Comments
Nor-Mac Planning District	Plan Approved	In effect June 1984
R.M. of Portage la Prairie	Plan Approved	In effect February 1985
South Riding Mountain Planning District	Plan Approved	In effect February 1985
R.M. of Swan River	Plan Initiated	No change in status from 1983-84
Washow-Fisher Peninsula Land-use Study	Study Initiated	Terms of reference completed; background study completed; economic analysis study initiated.
Catfish Creek Land-use Study	Study Initiated	Terms of reference completed; background study near completion.
Selkirk and Area Planning District	Plan Initiated	Existing draft plan to be revised.
Lac du Bonnet Planning District	Plan Initiated	

The Crown Land Classification Committee also reviewed proposals for the establishment of new wildlife management areas, provincial parks and forests, community pastures, and ecological reserves, and reviewed all agricultural Crown land sales requests and Crown land exchanges. The source book entitled, **Interdepartmental Operational Crown Land Plans**, was revised.

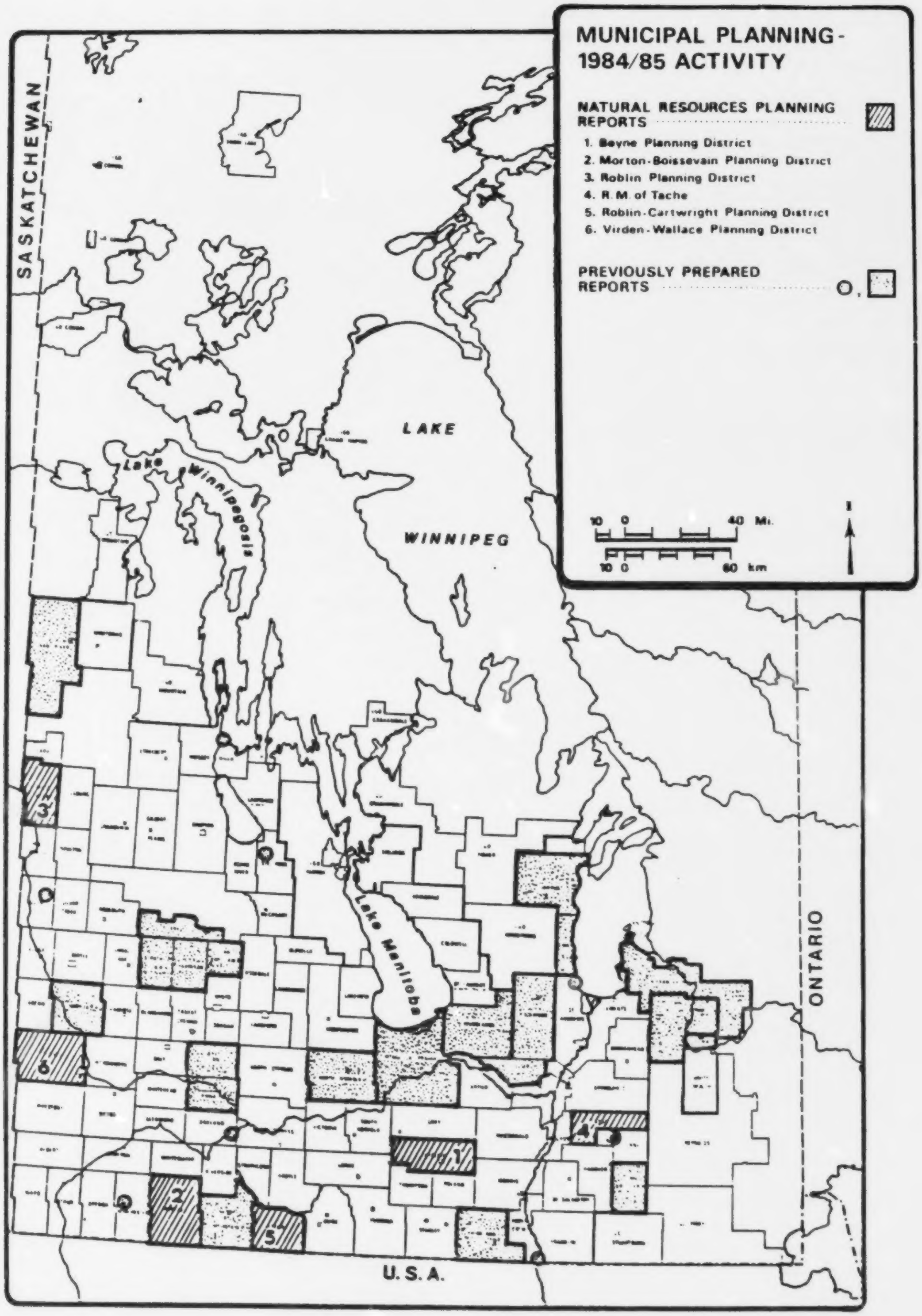
The branch reviewed and evaluated several draft municipal development plans, basic planning statements and background reports prepared by municipal authorities. The branch continued to co-ordinate the department's reviews of proposed land subdivisions, road allowance closures, municipal by-laws and plan amendments.

Municipal Planning

Six natural resources planning reports were prepared in co-operation with other branches of the department for municipal councils and planning district boards.

Natural Resources Planning Reports, 1984-85

Planning Authority	Planning Area	Technical Report
Boyne Planning District	R.M. Dufferin	No. 84-3
Morton-Boissevain Planning District	R.M. Morton	No. 84-4
Roblin Planning District	R.M. Shell River	No. 84-5
Tache Council	R.M. Tache	No. 84-6
Roblin-Cartwright Planning District	R.M. Roblin	No. 85-4
Virden-Wallace Planning District	R.M. Wallace	No. 85-5


MUNICIPAL PLANNING - 1984/85 ACTIVITY
NATURAL RESOURCES PLANNING REPORTS ▨
1. Boyne Planning District
2. Morton-Boissevain Planning District
3. Roblin Planning District
4. R.M. of Tache
5. Roblin-Cartwright Planning District
6. Virden-Wallace Planning District
PREVIOUSLY PREPARED REPORTS ○, ▒
10 0 40 Mi.
10 0 60 km
SASKATCHEWAN
LAKE WINNIPEG
Lake Winnipegosis
Lake Manitoba
ONTARIO
U.S.A.
1
2
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6

Outdoor Recreation and Tourism

Reviews and comments on outdoor recreation were prepared for several land-use and development proposals, including the La Salle and Roseau Rivers projects. Sections on outdoor recreation were prepared for reports dealing with the Manitoba Environmental Assessment and Review Process, with Crown land classification, and with municipal and planning district planning.

As the department's representative on the Licensing Advisory Committee of the Department of Economic Development and Tourism, the branch reviewed 70 applications for lodges, outcamps and boat, motor and fuel caches throughout the province, and made recommendations on the basis of availability of natural resources to meet the demands of the particular tourism industry. These reviews were carried out in concert with other branches of the department.

Interbranch Support

The branch provided both co-ordinating and consulting services to the department's executive and to several resource branches.

Environmental Assessment and Review

The branch co-ordinated departmental input into the Falcon Lake 230kV power line, the Gillam to Churchill transmission line, the Limestone Generating Station, and the North Central Electrification Project.

Crown Land Sales and Exchanges

During the fiscal year, the branch dealt with 65 parcels of Crown land requested for purchase, and 62 parcels identified for possible exchange. This represented a reduction in agricultural sale requests by over 50% from the last fiscal year, and a slight increase in the number of exchange lands processed.

Abandoned Rail Lines

As the department's representative on the Rail Line Abandonment Committee, the branch co-ordinated the review of all abandoned rail lines and station grounds. The review of some 138 km of abandoned right-of-way was completed, with the recommendation that the Edwin-Brandon Jct. (66 km) and the Russell-Saskatchewan Border (47 km) routes be retained by the province for resource and recreational use.

Resource and Recreation Roads

A guide to road maintenance was prepared to bring consistency to recreational and resource extraction access where this responsibility lies within the department's jurisdiction.

Lake Management Strategies

A lake management strategy was completed for Wanipigow Lake. Other strategies are being developed for Athapapuskow, Kississing and File Lakes.

Wetland Conservation

Work continued on wetland conservation to identify values, clarify problems and issues, evaluate current conservation activities and develop a strategy for the conservation of wetlands in Manitoba.

Other Activities

Other activities during the year included the Twin Creeks Land Evaluation Study, an interdepartmental examination of several townships in the northern Interlake region for their agricultural and natural resource capabilities; the impact of the Northern Flood Agreement; and the development of guidelines for the use of off-road vehicles on Crown land. The **Crown Lands Handbook for Agro-Manitoba**, which contains location maps showing Crown lands in southern Manitoba, was updated to the end of 1984.

Surveys and Mapping

This branch administers ***The Surveys Act*** *(Part II); provides legal land descriptions for permits and leases under various provincial acts; maintains all provincial geographical names; conducts land surveys as required by government agencies; implements and maintains a provincial system of control surveys and produces topographical maps; compiles and prints maps and plans; provides routine and custom photomechanical services; and maintains a map distribution system, air-photo library and remote sensing centre.*

Administration

Land Description Services

Legal land descriptions were provided for all Crown land transactions such as plans of subdivision, land or mineral exchanges, and the Agricultural Crown Land Sales Program, and for permits and leases under **The Crown Lands Act** and **The Mines Act**. Consents and orders of the Minister under **The Municipal Act** and **The Municipal Board Act** were also provided.

Toponymy

There was extensive media coverage of the naming of features after Manitoba's war casualties and the availability of Commemorative Name Certificates. Liaison with other branches was strengthened, resulting in an increase in demand for research assistance and editing of texts, documents and historical maps.

Geographical Names Activities

Activity	1983-84	1984-85
Responses to Inquiries	650	865
Supplementary Name Location Maps Prepared	116	169
Name Data for Mapping Manuscripts	74	103
Research for Name Decisions	160	63
Commemorative Name Certificates Processed	70	302

Legal Surveys

This section assists in maintaining the Township Survey System and provides a legal surveying service to provincial departments and agencies. Its tasks include the preparation of plans of subdivision, the survey of rights-of-way for government projects, the survey of miscellaneous parcels of land, and the investigation and provision of advice regarding land transactions and property disputes. All surveys above the normal capability of the branch's surveyors are contracted to the private sector.

The section is also responsible for preparing instructions and examining all surveys of Crown land carried out by government and private land surveyors.

Legal Survey Activities

Examination of Survey Plans Affecting Crown Lands	70
Survey System Maintenance (in km)	390
Water Control Projects (in km)	90
Residential and Recreational Lots Surveyed	100
Surveys of Miscellaneous Parcels of Crown Lands	35

Control Surveys and Topographic Mapping

Control Surveys

The provincial survey system, designed to support the geographical referencing of land information was extended to the area west of Lake Manitoba between Latitudes 50° N and 51°N, excluding Riding Mountain National Park. Two hundred stations, located near township corners, were targeted, photographed and measured to tie them into the survey system. An additional 135 stations were selected in southeastern Manitoba for measurement in 1985-86.

Other activities included the selection and measurement of 22 survey stations in the south Interlake region using satellite technology to support an inertial survey research project; the completion of 93 integration surveys between the provincial survey system and the Dominion lands survey system; the commencement of a pilot project to assess the applications of photogrammetric technology in the development of the survey system; and the positioning of seven survey stations by satellite technology in the Souris area.

A co-ordinator for the Land Information Network Advisory Committee was appointed for a two-year term. The L.I.N.A.C. was established to co-ordinate the development of a multi-purpose land information network for the province. Work undertaken included a user-requirement analysis and the development and implementation of an educational strategy to commit users to such a network.

Computations and Data

Work centred on the establishment of computer capability for major surveying programs. This included the computation of positional data for the legal survey system in the province and the preparation of survey observations for the upcoming 1985-86 North American redefinition, readjustment, and subsequent integration of provincial data. Older control survey networks continued to be evaluated and validated and a review of interprovincial boundary data was implemented. Evaluation of new survey networks in and around the City of Winnipeg continued with the integration of 240 stations. There were 194 requests for positional survey data or related information from other government agencies, industry and the public.

Topographic Mapping

In the medium-scaled 1:20,000 mapping program, 16 map sheets for Nopiming Provincial Park, four map sheets of The Pas area and 20 others in pencil manuscript form were completed for the Mineral Resources Division of the Department of Energy and Mines.

In the large-scaled mapping program, nine map sheets at a scale of 1:1,000 covering portions of Winnipeg, and 19 map sheets at a scale of 1:2,000 in the Virden (7) and The Pas (12) areas were completed.

Aerial photography inspection was completed for 132 line kilometres of the Souris test project. It is designated to assess the feasibility of using photogrammetry to determine the position of land survey monuments. A total of 20 photo mosaics were constructed for various departments.

Geographic Mapping

New maps and plans were prepared and photo products produced for various public and government purposes including resource use, recreation, land disposition and surveys.

Cartographic Unit

Major projects included the preparation of new plans of eight provincial forests, the Atikaki Provincial Wilderness Park, the Assiniboine River Canoe Route, for the Northern Interlake Forestry Study, and for the Commemorative Name Certificates.

Revisions were made to update the map index, Survey Control Network Map, the Wildlife Management Areas Map, the M.T.S. Mobile Communication Map, and the Game Bird and Big Game Hunting brochures.

Plan Drafting Unit

Drafting Products	1983-84	1984-85
Plans of Survey	83	99
Township Diagrams	20	16
Plan Revisions and memorials	263	351

Photo Mechanical Unit

Photo-Mechanical Products	1983/84	1984/85
Mapping Products	4,800	4,050
Supplementary Aerial Photography (S.A.P.)	2,800	3,440
Township Mosaics	2,770	3,620
Contact Prints	8,960	2,800
Copyproofs from Original Photographs	17,464	16,400
Enlargements	720	420

Map Distribution and Remote Sensing

Map Distribution Unit

Revenue from the sale of maps and aerial photographs to 14,325 customers increased by 10% to $198,400. Photo index systems were established at The Pas and Dauphin to provide these regions with easy access to aerial photography information.

Remote Sensing Centre

The Technology Enhancement Program (TEP), which tested remote sensing techniques for natural resource management in co-operation with the Canada Centre for Remote Sensing (CCRS), ended in June. An ongoing remote sensing program was established with the acqusition of the ARIES II image analysis system in March 1984, and an Applicon ink jet plotter in early 1985. The extensive use of this technology in classifying land cover and producing thematic maps is demonstrated by the 37 projects completed.

The Supplementary Aerial Photography Program carried 6,320 line kilometres of 70 mm photography for other departments.

Water Resources

This branch provides short- and long-term planning for the management and development of water resources in Manitoba; plans and develops construction and maintenance programs for provincial water-control works; conducts studies and investigations related to the management and use of the water resources in the province; administers several water-related Acts, including **The Water Rights Act** and **The Water Power Act**; and provides engineering services to municipal councils and conservation district boards.

Water Management

Water Licensing and Approvals Section

Approvals

Waterway Opening Investigations	1,344
Crown Land Use Investigations	590

Hydroelectric Power Generation

	1983	1984
Water Power Rentals	$11,750,667.50	$11,473,192.25
Storage Charges (Collected from Producers and paid to Canada)	188,104.32	157,139.54
Land Rentals	473,082.38	473,082.38
Total	$12,411,854.20	$12,103,414.17
Total Power Production (Kilowatt-hours) Associated with the Above Charges	21,979,423,300	21,312,863,660

Water Supply for Existing Power Developments

River	Average Flow	% of Long-term Average
Winnipeg River (Slave Falls)	766 m^3/s	90.9%
Nelson River (Kelsey)	1,850 m^3/s	74.6%
Saskatchewan River (Grand Rapids)	485 m^3/s	60.9%

Lake	Approved Range	Levels		Outflows	
		Low	High	Low	High
Lake of the Woods	321.9 m to 323.5 m	March 322.48 m	July 323.18 m	Oct. 299 m^3/s	Mar. 581 m^3/s
Lac Seul*	353.0 m to 357.2 m	March 354.45 m	Aug. 356.80 m	Apr. 37.4 m^3/s	Nov. 418 m^3/s

**The flow into Lac Seul through the Lake St. Joseph Diversion averaged 73.6 m^3/s in 1984.*

Requests for Use of Crown Land, 1984-85

Nature of Requests	Requests	Parcels Involved
Lands in Water Power Reserves	96	138
Lands for the Operation of Water Power Licences	30	31
Crown Land Outside of Water Power Reserves/Licences	245	421
Total	371	590

Water Power Development to December 31, 1984

Owner	River	Plant Name	Normal Head in Metres	Installed Capacity in Megawatts	
				Present	Ultimate
City of Winnipeg	Winnipeg	Pointe du Bois	14.02	78.33	78.33
City of Winnipeg	Winnipeg	Slave Falls	9.14	71.62	71.62
Manitoba Hydro	Winnipeg	Seven Sisters	18.59	149.20	149.20
Manitoba Hydro	Winnipeg	Great Falls	17.07	125.33	125.33
Manitoba Hydro	Winnipeg	Pine Falls	11.28	85.05	85.05
Manitoba Hydro	Winnipeg	McArthur	7.01	59.68	59.68
Prov. of Manitoba	Kanuchuan	Kanuchuan	5.49	1.42	4.25
Manitoba Hydro	Laurie	No. 1 Site	16.76	5.22	5.22
Manitoba Hydro	Laurie	No. 2 Site	16.76	5.22	5.22
Manitoba Hydro	Nelson	Jenpeg	7.32	167.10	167.10
Manitoba Hydro	Nelson	Kelsey	15.24	219.32	313.32
Manitoba Hydro	Nelson	Kettle	30.02	1,253.28	1,253.28
Manitoba Hydro	Nelson	Long Spruce	24.38	1,007.10	1,007.10
Manitoba Hydro	Saskatchewan	Grand Rapids	38.10	447.60	447.60
Total				3,675.47	3,772.30

Undeveloped Water Power, 1984-85[1]

(in Continuous Megawatts at 88% Efficiency)

River	95% of Time	50% of Time
Berens	5.22	17.16
Burntwood	394.04[2]	512.20[2]
Churchill	102.95[2]	138.76[2]
Gods	26.11	43.27
Grass	5.22	19.40
Hayes	2.24	8.95
Kanuchuan	11.93	19.40
Laurie	1.49	2.24
Nelson	1.817.03[3]	3,042.11[3]
Pigeon	15.66	40.28
Seal	123.09	347.63
Total	2,505.00	4,191.40

[1] The figures represent the amount of power which could be available continuously on the indicated bases, and do not include developed or undeveloped power available at the Jenpeg, Kelsey, Kettle and Long Spruce sites on the Nelson River, at Kanuchuan on the Kanuchuan River, or at Sites No. 1 and 2 on the Laurie River. If fully developed, the total installed capacity of the above rivers would considerably exceed the figures.

The undeveloped water power resources are estimated to be slightly more than 2,500 continuous megawatts, at 95% flow. The major water power rivers are located in the northern part of the Province.

[2] With Churchill River Diversion.

[3] With Churchill River Diversion and Lake Winnipeg Regulation.

Activities in Administering The Water Rights Act, 1984-85

	Surface Water	Ground Water
Number of Applications	74	42
Number of Complaint Investigations	11	3
Number of Site Visits	97	182
Number of Licences Issued:		
Domestic (including Stock Watering)	2	1
Municipal	3	2
Industrial	1	0
Irrigation	36	13
Waterfowl Conservation	5	0
Air Cooling	0	6
Wild Rice Production	4	0
Other	2	0

Water Development Planning

Provincial Water Management

Reservoir Regulation

The branch is responsible for about 100 provincial dams and reservoirs, over half of the dams being controlled manually or mechanically. The remainder are uncontrolled in-channel fixed-crest weirs or headwater retention dams. Many of the reservoirs provide water to communities and farms. Dams may also be used for flood control, recreation, wildlife, or a combination of these uses.

All major reservoirs were replenished by the 1984 spring runoff. The controlled dams were operated to maintain reservoir levels within their normal ranges. Lake Manitoba remained within the permissible regulated range of 247.15 m to 247.76 m. Dauphin Lake peaked at 260.51 m following the spring runoff, but remained within its regulated range of 259.99 m to 260.39 m for the rest of the year. Lake of the Prairies peaked at 427.78 m in June 1984, and receded to 422.87 m by March 1985.

Fairford Dam/Lake Manitoba

The Fairford Dam is used to maintain Lake Manitoba between 247.15 m and 247.76 m, with the current target level at 247.55 m. Although a lower target level would make more hay land available in an average year, it would reduce the social and economic values of the lake for recreation, fish and wildlife.

To assist the Manitoba Water Commission in its study of this matter, the Water Resources Branch provided the commission with several years' correspondence, and updated the cost estimates both for controlling outflow from Lake Winnipegosis and for several alternative schemes to alter water-levels downstream from the Fairford Dam.

Dauphin Lake

The Manitoba Water Commission has recommended that the upper level of Dauphin Lake be raised to 260.7 metres (from its current full supply level of 260.3 m) and that the lower control level be kept at 260 m, the minimum drawdown level to accommodate spring runoff). Also recommended were measures to better control inflow, silting, and outflow in order to preserve the lake and obtain the maximum benefit for the greatest number of people, taking into account the agricultural, recreational, wildlife and fisheries issues involved.

Souris River

The Manitoba Water Commission concluded that the removal of the Hartney and Napinka dams will have no appreciable effect on flood reduction in the area between the International Boundary and Hartney. Furthermore, since the farm land along the Souris River is in a flood plain, the Commission could not recommend any measures to effectively reduce flood damage in this reach. The Commission agreed with the Souris River Basin Study that structural alternatives along the Souris River in this reach are not economically justifiable.

Dennis Lake/Fish Lake (Chatfield Lake)/ Oak Island Marsh

In its final report the Dennis Lake/Fish Lake Task Force recommended multi-purpose management for Dennis Lake subject to the approval of local residents. The proposal to divide Dennis Lake into three independently managed cells each with its own outlet into a connecting drain and a 100-cfs outlet on the northeastern side of the lake, would provide significant benefits to waterfowl and agriculture. The Task Force also recommended that a multi-purpose regulation for Fish Lake (Chatfield Lake) be examined further only if the participating agencies are willing to contribute financially to such development. For Oak Island Marsh, it was recommended that none of the regulatory options proposed be implemented, and that no additional drainage be permitted into it or into Dennis Lake because of the lack of suitable outlets.

A brochure outlining the recommended management concept for Dennis Lake was prepared for distribution to local residents and organizations.

Vestfold Marsh

The original proposal by Ducks Unlimited to improve waterfowl habitat and drainage in the Vestfold area was revised and now includes a western outlet from the Vestfold complex through the Hatchery Drain into Lake Manitoba. A preliminary assessment of the channel's capacity has been completed and the effects of this proposal on flooding are being evaluated.

Fisher River

To reduce peak flows on the Fisher River at the Peguis Indian Reserve two proposals to store headwaters have been examined. The first, a diversion-detention concept near Dallas, would cost an estimated $7 million. The other, storage in the Switzer Creek area, although considerably less effective cost only $330,000 with a benefit-cost ratio of approximately 6:1. The Peguis Indian Band believes that the construction of a diversion to Lake Winnipeg at a cost of roughly $20 million is the only acceptable alternative.

St. Malo Lake

In consultation with the Parks Branch, a minimum water level for this reservoir was determined below which no licensed withdrawals will be permitted. This level, which is 0.45 m below full supply level, recognizes the agricultural, water supply, and recreational uses of the reservoir.

Community of Rosenort Water Supply

Due to water shortages in the Community of Rosenort, the R.M. of Morris requested that the branch investigate the feasibility of increasing the storage capacity of Morris River Dam #3. The possibility of raising the dam by 0.6 m was considered by PFRA but, on the basis of stability analyses, an increase in stoplog height was not recommended.

A water-use survey is being made in the community of Rosenort to determine the amount of unmetered water pumped directly from the Morris River. The data from this survey will help to determine required reservoir capacity to prevent future water shortages.

North Duck River

In response to concerns expressed by the Cowan District Steering Committee, the branch and the Department of Agriculture completed a study of possible flood and erosion control measures along the North Duck River. The study, completed in the fall of 1984, indicates that the most economic means of providing headwater storage is to construct a single dam in the upper reaches of the North Duck River at an estimated cost of $545,000, and a benefit-cost ratio of 0.82. The report also recommends cultural practices that would reduce the risks and damage due to flooding and erosion.

Whitemouth River Flood Control

The branch's current study of flooding problems along the Whitemouth River is examining the proposal of the L.G.D. of Reynolds for a control structure, and also several other flood-control schemes considered by the branch and PFRA in the past.

Plum Lakes/Oak Lake

The two main and conflicting land uses in the Plum Lakes/Oak Lake area are agriculture and wildlife maintenance. In its study, the Manitoba Water Commission recommended; the regulation of Plum Lakes within a range of 428.5 m and 429.45 m; the acquisition and refurbishing by the Province of the Ducks Unlimited Dam and Plum Creek Dam; an increase in the carrying capacity of Plum Creek; and the establishment of an Oak and Plum Lakes Management Board to manage the water-levels in the Oak Lake/Plum Lakes area. The local advisory board already established has recommended that the existing Kansas City Dam be refurbished and put into operation.

Shanty Creek

A study completed in December 1984 indicated that the flooding and erosion damage in the spring of 1983 was caused by lack of an outlet for local runoff into Shanty Creek due to ice in the creek. The study also indicates that the severe spring runoff in 1983 was a rare event, and proposes several solutions to prevent a recurrence.

La Salle River

A backwater study of the La Salle River, begun in 1983 and completed in the summer of 1984, determined the computed water surface profiles along the La Salle River from the Red River to Elie for various flood-flow conditions. This data will be useful to determine the nature of potential flooding problems that may be aggravated by increased drainage activity. The backwater information will also be useful to design systems that drain into the La Salle River.

P.R. 329 — Agricultural Drainage Outlet

At the request of the R.M. of Bifrost the branch studied the flooding and drainage problems in the vicinity of P.R. 329 to consider a drain along the road with outlets into the Icelandic River. The preliminary report completed in the fall of 1984 indicates that this drainage can be included as part of the planned upgrading of P.R. 329 with little or no additional cost. The report also includes the additional costs of two possible ways of re-routing the outlet around the Village of Riverton.

No. 2 Drain/Barickman Coulee Drain

The study of the No. 2 Drain and the Barickman Coulee Drain made at the request of the R.M. of Cartier indicates that it would be economically feasible to reconstruct the drainage system to a higher standard, and that the inclusion of additional areas to the watersheds of both drains would also be desirable, with the most economical improvement being the diversion of part of the No. 2 Drain into the Barickman Coulee.

Washow Bay/Blind Bay Drainage System

At the request of the R. M. of Bifrost and the L.G.D. of Fisher the branch undertook a study of the general problems in the Washow Bay/Blind Bay drainage system. The study, which was approved for commencement in 1983, will examine the nature of the problems, the agricultural potential of the area, conceptual designs and costs of possible solutions, the benefits of improved drainage, and the most reasonable course of action to be followed. The compilation of the field data was completed in the spring of 1984.

Catfish Creek

The Catfish Creek drainage system was originally developed in the 1950's and improved over time on a piece meal basis. To determine whether further improvements on a systematic basis were warranted, a preliminary study to assess the adequacy of the provincial portions of the Catfish Creek drainage system was completed in the summer of 1984. It shows that while Main Drain No. 1 provides a reasonable amount of drainage protection for the area, the municipal and on-farm drains are not up to standard. The report also indicates that improved drainage without water-table management might damage the organic soils which make up the major part of the Catfish Creek watershed.

Community Pasture Drain

In December 1984, the branch completed a study of the feasibility of rerouting about five kilometres of the Community Pasture Drain near Swan River as an alternative to reconstructing it in its present location. Also studied was the possibility of having about 26,000 hectares in the Zoria system drain into the Community Pasture Drain.

Inter-governmental Water Management

Pasquia Polder III Project

The branch is the leading agency in this joint project with the Department of Agriculture and PFRA to construct two large pumping stations and associated works, and about 64 kilometres of drain. Surveys and design of most of the drain have been completed. The project will be of direct benefit to about 7,000 hectares of land. The branch and PFRA are preparing detailed design and cost studies to have the project developed jointly by Manitoba and Canada under the Economic Regional Development Agreement (ERDA).

Manitoba Escarpment Storage Study

Together with PFRA and the Department of Agriculture, the branch is identifying and evaluating the benefits and costs of headwater storage along the Manitoba escarpment from the Porcupine Hills to the Pembina Hills to better define the nature, extent and significance of flooding in this area, especially in relation to agriculture.

Most of the areas where flooding, erosion and sedimentation are particularly severe have been identified and further analysis of them is underway. The final report is expected to be completed in the summer of 1986.

R. M.'s of Shellmouth and Russell: Interprovincial Drainage Problems

Drainage in several watersheds in the R. M.'s of Langenburg and Churchbridge in Saskatchewan has indicated the need for drainage improvements in the R. M.'s of Russell and Shellmouth downstream in Manitoba. The first phase of the study initiated by the Prairie Provinces Water Board, and completed by the Province of Saskatchewan in 1984, assessed the hydrologic impact of upstream drainage improvements on seven interprovincial streams. The second phase by the Province of Manitoba is to assess the improvements required to carry the greater flows and the possibility that these will increase flooding in the Assiniboine River valley downstream from Lake of the Prairies.

Edwards Lake

The Town of Dauphin and Parks Canada are continuing to negotiate an agreement for the continued use of Edwards Lake as a source of water supply for the Town. Studies completed by PFRA and the branch indicate that at some time steps will have to be taken to assure a dependable supply of water for the years to come. The most attractive proposal for increasing the supply is to raise the dam on Vermilion River at a cost of about $3 million. The continued use of Edwards Lake, however, would delay the time when it would be necessary to raise the dam and would result in considerable savings.

The branch indicated that it would not be desirable to discontinue the use of Edwards Lake before the dam on Vermilion River has been raised to meet Dauphin's water needs. However, such factors as population growth and changes in water use make it difficult to determine when additional supplies will be needed. In view of this, the Town Council believed that the agreement between Parks Canada and the Town of Dauphin should be renewed for 20-year periods as long as Edwards Lake is required as a municipal water source. The Minister responsible for Parks Canada is considering this proposal.

Water Demand Study

A computerized data system was established by the Prairie Provinces Water Board to store water-use information collected during the Water Demand Study from 1961 to 1978. The branch has provided all available water-use data for the period from 1979 to 1983 to supplement this information. This central data storage system makes water-use information readily available for planning and forecasting purposes.

Special Services Section

This section establishes standards for the construction and maintenance of water control works. Actual construction, however, is the responsibility of the Engineering and Construction Branch.

The section is responsible for monitoring the design and construction of various projects being undertaken with the PFRA and the City of Winnipeg. The section identifies the land requirements for these projects and then liaises with the Land Acquisition Branch to purchase the required right-of-way.

The section prepared procedures relating to the legal and administrative requirements of Provincial Waterways and Designated Reservoir Areas. Staff members are branch representatives for Manitoba Environment Assessment and Review Agency's (MEARA) review of branch projects, and are also responsible for environmental studies undertaken by the branch.

The section completed an agreement to transfer the Edwards Creek Reservoir from the Province of Manitoba to the Town of Dauphin. A similar agreement is being negotiated with the Town of Grandview for the storage reservoir located in that town. Other services provided included:

i. review of right-of-way plans for opening and closing of roads;
ii. preparation of recommendations regarding the designation or abandonment of Provincial Waterways;
iii. preparation of agreements and submissions to the Treasury Board regarding cost-sharing with other jurisdictions;
iv. development of an agreement for compensation for damage caused by overflows from the Portage Diversion;
v. provision of geotechnical advice, including field investigation for subdivisions and Crown land leases and purchases;
vi. provision of technical and drafting services to establish severance lines required under the Northern Flood Agreement;
vii. updating the inventory of all provincial water control works; and
viii. maintaining data on unit construction costs, agricultural commodity prices, and crop yield information of the Manitoba Crop Insurance.

The annual report on the maintenance and operation of primary dykes in the City of Winnipeg was prepared by the Dyking Commissioner.

Conservation Districts

Conservation Districts Authority

The Conservation Districts Authority administers and distributes provincial grants to the conservation districts for drainage, flood control, soil and water conservation, and fisheries and wildlife management projects.

Grants to Conservation Districts in 1984-85

Conservation District	Amount
Whitemud Watershed	$ 842,452.75
Turtle Mountain	318,990.09
Turtle River Watershed	399,763.00
Alonsa	100,846.08
Cooks Creek	190,116.78
Administrative Costs	8,988.34
Total	$1,861,157.04

District Reports

Whitemud Watershed

A double-dyked floodway is being built along the Big Grass River between Waldersee and the Big Grass Marsh. A completed study concluded that flood protection from the 100-year flood for the Village of Westbourne is not economically feasible.

Turtle River Watershed

Four feasibility studies involving drainage improvement were completed. A multi-disciplinary study involving drainage control and regeneration of fish habitat was also completed. An existing land cover map from satellite imagery was prepared for the district.

Turtle Mountain

A land-and-water management study of Cherry Creek and a flood-protection study for the Town of Deloraine were initiated. A detention dam on "Dooley's Coulee" near Boissevain was under construction. Guidelines for pothole consolidation projects are being discussed with the Wildlife Branch, the Department of Agriculture, PFRA, Ducks Unlimited, and the Turtle Mountain Conservation District.

Alonsa

Four feasibility studies involving drainage improvement were completed. A multi-disciplinary feasibility study involving the Portia Complex project is continuing.

Cooks Creek

The branch is acquiring resource information for the district's resource management scheme.

Flood Damage Reduction Section

This section applies Provincial Land Use Policy No. 11 to control development in areas subject to flooding, erosion, bank instability, landslides and subsidence. During 1984-85 approximately 875 subdivision applications were reviewed, and data provided for six planning documents. Three draft planning documents and 56 zoning by-laws were reviewed.

Under Section 494.09 of **The City of Winnipeg Act**, the Minister may make an order varying the floodproofing criteria established by **Manitoba Regulation 170/81**. Eleven applications for variances were processed during the year.

Under Section 16.1 of **The Water Resources Administration Act**, 43 flood protection permits were issued.

Hydrology Section

Hydrologic Monitoring

During the year an extensive network of streamflow and water-level monitoring stations was maintained to provide accurate information on the surface waters of the province. Financial and technical advice were provided to the federal government under the terms of the **Canada/Manitoba Agreement for Water Quantity Surveys** for the operation of 299 hydrometric stations. A further 114 hydrometric stations were operated by the branch for runoff monitoring and to facilitate activities such as flow-forecasting and the operation of the province's water-control structures.

Hydrometric, Hydrologic and Hydrometeorological Data

Isohyetal maps of storm precipitation were prepared and distributed after each significant storm.

Data on water levels and streamflows for 31 lakes, 29 rivers and seven reservoirs were compiled and distributed weekly to several hundred users.

Data on climatology and hydrology was provided as required at the request of users.

Flow Forecasting

During 1984, daily forecasts of peak stages were prepared for various points along the Red, Assiniboine and Souris Rivers from the start of active snowmelt runoff to the date of the peak river stage. Daily flood information sheets were prepared and distributed for the Red River from March 27 to April 16, and from June 11 to June 25, 1984, and for the Souris River from May 8 to May 25. There was no threat of flooding from other streams. Throughout the year, inflow forecasts were prepared for various lakes and reservoirs where control structures are operated by the province.

During February and March 1985, spring flood outlooks were prepared for the Red, Assiniboine and Souris River watersheds. During March 1985, peak flow/stage forecasts were also prepared for 50 smaller watersheds and 8 lakes and reservoirs in Manitoba. An isohyetal map of the spring runoff potential expressed as a percentage of normal was also prepared. These forecasts were prepared to facilitate measures designed to reduce flood damage and to improve the management of Manitoba's water supplies.

Hydrogeology Section

Monitoring

Water-level measurements were obtained at 468 observation stations, water chemistry at 130 observation stations, and water temperature at eight stations. All ground-water data collected were added to a permanent storage and retrieval system.

Information

Numerous written appraisals of ground-water availability and pollution hazards were prepared for specific sites in response to requests. Reports defining ground-water conditions were prepared for planning districts and conservation districts.

Services

Twenty-six water-supply investigations were completed to develop ground-water sources for parks, northern communities, and rural municipalities. Several ground-water problems associated with land drainage systems were investigated at the request of rural municipalities and conservation districts.

Regional Water Management

There are seven regions in the province, each being served by a Regional Water Manager. However, the Eastern and Northeastern regions have been combined under one Regional Water Manager as have the Western and Northwestern regions. The other regions are the Interlake, Southeastern, and Southwestern.

Summary of Water Control Works, 1984-85

Program	Region					Total
	Interlake	Eastern/ Northeastern	Southeastern	Southwestern	Western/ Northwestern	
Maintenance						
Water Supply and Conservation Facilities	$ 1,554.38	$ 5,770.62	$ 48,744.99	$ 8,433.60	$ 90,508.73	$ 155,012.32
Flood Damage Reduction Works	221,905.21	111,167.87	98,221.37	—	9,665.90	440,960.35
Land Drainage Works	745,057.79	284,131.22	1,333,172.75	3,838.74	730,352.95	3,096,553,45
Land Drainage Reconstruction	244,203.70	35,171.20	244,409.47	—	—	523,784.37
Bridge Replacement Program	94,647.85	90,226.72	212,637.18	—	102,504.91	500,016.66
Value-added Crops Production Agreement	—	301,100.25	839,748.60	—	—	1,140,848.85
Water Development Agreement	—	—	893,134.47	—	6,267.76	899,402.23
Upgrading Valley Town Dykes	—	—	732,170.51	—	—	732,170.51
Pasquia Polder III Agricultural Land Reclamation Project	—	—	—	—	72,358.87	72,358.87
CPR Emerson Subdivision — Red River Floodway Bridge and Roadbed Maintenance Agreement	—	884,938.13	—	—	—	884,938.13
Total	$1,307,368.93	$1,712,506.01	$4,402,239.34	$12,272.34	$1,011,659.12	$8,446,045.74

Flood Forecasting Agreement

Preparation of the report on phase I of the Flood Forecasting Agreement continued. The studies consisted mainly of a pilot project to determine what runoff model, if any, could be effectively used to improve flood forecasting on Manitoba's streams. The Hydrologic Simulation Program — Fortran (HSPF) was selected for this purpose. Work continued on phase II of the study which involves the application of the HSPF model to tributary sub-basins of the Red, Assiniboine and Souris Rivers. Calibration of the model on Willow Creek near Chater is almost complete and calibration of Gopher Creek is underway. It is anticipated that the HSPF model will have been applied to six tributary basins by the end of phase II in March 1986. Since a further 30 tributary basins of the Red, Assiniboine, and Souris River watersheds require calibration, consideration is being given to extending the Flood Forecasting Agreement by five years at a cost of $500,000.

Canada-Manitoba Subsidiary Agreement on Value-Added Crops Production

Domain Drain Area Crop Demonstration Project

This project is intended to demonstrate how optimum productivity can be achieved by judicious development of a drainage system. Data on precipitation, streamflow and productivity collected from the improved Domain Drain watershed and the adjacent, unimproved Manness Drain watershed will be used to determine the effects of drainage installations and land use on the runoff regime and, hence, to quantify the benefits of drainage.

Cost-sharing agreements have been made for those municipal drains that are to be constructed by the province. About seven kilometres of cost-shared municipal drainage works were completed in 1984.

Marsh River Area, Project #402

Four of five independent drainage projects are now under way in the Marsh River area. Construction of the provincial portion of the La Fond Drainage System is now complete, except for minor clean up. Nine of 18 kilometres of municipal drains have been reconstructed. Five of 13 kilometres of municipal drains in the Aubigny Drainage System have been reconstructed. Construction of the provincial portion of the Arnaud Drainage System is nearing completion. The design, plans, and acquisition of right-of-way for the provincial portion of the Angle Drain System have been completed, in addition to the design and plans for five kilometres of municipal drains.

La Salle River Area, Project #404

Two projects are under way in the La Salle River area. In the Mills-Wheatland System, reconstruction of the provincial waterway has been completed, and 10 kilometres of municipal drains have been improved. Twenty-nine of 35 kilometres of provincial waterways in the Upper Bryson System have been reconstructed, and 21 of 64 kilometres of municipal drains have been completed.

Morris River Area, Project #405

The right-of-way for the provincial drains in the Roberts-McTavish System in the Morris River area has been purchased. Eleven of the 18 kilometres of provincial drain have been completed.

Canada-Manitoba Interim Subsidiary Agreement on Water Development

Water Management

Drought-proofing Studies

The Department of Agricultural Economics of the University of Manitoba developed a series of mathematical models to simulate Manitoba's agricultural economy with and without the imposition of drought conditions. These models were used last year when a series of potential drought-proofing measures were tested and assessed. One such measure is the adoption of farming practices which could lead to improved soil-moisture conditions by retaining and conserving snow cover to permit the production of winter wheat, the subsidizing of forage transport, and the establishment of feed banks and large-scale irrigation projects. The results of this work will be used to formulate a long-term drought-proofing strategy for Agro-Manitoba.

Water Management Investigations

Investigations are continuing to determine whether it would be economically feasible to divert water from the Assiniboine River to the Assiniboine South-Hespeler area. Activities include the economic evaluation of the irrigation project, an assessment of its impact on various aspects of the environment, and studies into the costs of the principal engineering works.

Water Supply

Water Supply Investigations

i. Boyne River Watershed: Studies are continuing into alternative means of providing water to the Treherne and Rathwell areas. Methods being examined include large dams, small dams, pumping from the Assiniboine River and combinations of the above.

ii. Carman: Consideration is being given to increasing and improving the delivery of water to the Town of Carman between November and April, by raising the existing dam and constructing a small rockfill dam, an oxbow reservoir or an off-channel dugout.

iii. Pine River: A proposal to construct a piped water supply to the Village of Pine River has been reactivated and approved for inclusion in the 1985 program under the Agreement.

Water Supply Projects

During the past year, under the Interim Subsidiary Agreement, two projects were undertaken by the province in conjunction with the P.F.R.A.

i. Assiniboine-La Salle River Enhancement Project: The project was completed and operated through the 1984-85 winter. The major components of the project are three pumping stations which divert water into the La Salle River, Elm River and Mill Creek. The Mill Creek station was completed in October 1984 and operated from November 1984 to March 1985. A gated culvert, to allow gravity diversion from Mill Creek to the La Salle River, was also completed in November 1984. The La Salle River station was completed in November 1984 and operated until February 1985. The Elm River station was completed in March 1985. There are some mitigation works to existing facilities, affected by the project, which are to be completed in 1985.

ii. Altona Water Supply Project: Work started on the Altona Water Supply Project in September 1984. The project involved the construction of a water pipeline from a proposed water-treatment plant in Letellier to Altona, and a water-supply intake from the Red River to the treatment plant in Letellier. The approximate 22-km pipeline from Letellier to Altona was completed in March 1985. Tenders for the pipeline from the intake works to the proposed water treatment plant in Letellier closed in June 1985. Completion of the project was scheduled for October 1985. The Manitoba Water Services Board anticipates calling for tenders for the water treatment plant in August 1985.

Water Resource Development

Exploratory drilling investigations to define aquifers were carried out in parts of the Selkirk and Neepawa map sheet areas. Maps showing the locations of available ground-water for inclusion in the Hecla map sheet were completed. Exploratory drilling and pumping tests for aquifer capacity were carried out in the Assiniboine Delta and Oak Lake aquifers.

Water-quality testing associated with aquifer enhancement investigations was carried out for the La Salle River and the Elie Aquifer.

Wildlife

This branch develops and implements management programs to ensure the wildlife resource is passed on in at least as vigorous a state as it was received by the present generation; delivers programs that provide for the subsistence, and commercial and recreational use of the wildlife resource; implements programs to alleviate wildlife damage to people and property; and promotes the use of wildlife for scientific and educational purposes.

Wildlife Management Programs

Wildlife Education

Approximately 45,000 people visited the Oak Hammock Marsh in 1984, an 8% increase over 1983. The branch received $133,000 from Destination Manitoba for the development of visitor services. This funding was used to promote the area, to establish a Visitor Information Centre, and to construct two nature dykes to enable visitors to walk through the marsh without retracing their steps. A fall newsletter and a new brochure were published in 1984. Under a newly-established co-operative program with the Canadian Wildlife Service, 2,800 people were taken on guided tours of this marsh. An additional 4,200 people were contacted by seasonal naturalists throughout the year. This new program reached a record number of people and marked the beginning of an aggressive marketing campaign to promote the area.

Group tours of the Narcisse, Souris River Bend and Brandon Hills Wildlife Management Areas were continued. The snake dens at Narcisse alone attracted approximately 7,000 visitors during the three week spring emergence of red-sided garter snakes in early May.

The 1984 National Wildlife Week saw the establishment of the National Wildlife Week Working Group, consisting of representatives of 10 wildlife agencies and special interest groups, to oversee the planning and delivery of Manitoba's program for the designated week. The annual poster and prose contest was expanded to include a doodle poster competition, all of which attracted over 1,800 entries. Winning entrants received their prizes from the Honourable Al Mackling, Minister of Natural Resources, at a formal presentation at the Winnipeg Centennial Library. Prizes included a trip to Churchill, visits to Manitoba's Wildlife Management Areas, bird books and binoculars. Manitoba schools and public libraries received free copies of the Canadian Wildlife Federation's wildlife kits, and colouring books developed for the first time by the working group. Staffed wildlife exhibits were set up in Winnipeg's Polo Park Shopping Centre, the Brandon Shoppers Mall, and the Dauphin Shopping Centre. The 1984 program also featured a film-and-speaker festival held in the auditoriums of the National Film Board and the Museum of Man and Nature. Magician Brian Glow was appointed wildlife ambassador for National Wildlife Week, and promoted it through public service announcements and interviews on radio and television.

Under the Wildlife Conservation Awards Program, eleven Manitobans and organizations received awards for their outstanding contribution to wildlife conservation.

The branch again co-operated with the Manitoba Registered Trappers Association to set up and staff a wild fur exhibit at the week-long Festival du Voyageur. The display attracted over 14,000 visitors.

A $1,000 grant was made to the Delta Waterfowl Research Station for the hiring of a tour guide to meet the demand for more information about research at Delta Marsh.

A 24-page colouring-and-activity book, **Be Bear Aware**, to alert children to the potential dangers of feeding bears or approaching black bears with cubs was produced for distribution to campers and cottagers in problem bear areas.

Hunting Programs

Sport hunting remained popular in 1984-85. Big game hunters enjoyed 263,500 recreation days, harvesting 1,751 moose, 23,090 deer, 1,038 elk, 1,153 black bears, woodland caribou and wolves. In 1984, 31,298 resident and 3,748 non-resident migratory-game-bird hunters took to the fields and marshes, harvesting approximately 215,000 ducks, 170,000 geese and 1,000 birds of various species.

Staff of the Interlake Region again assumed responsibility for the managed waterfowl hunt at Oak Hammock. Fall concentrations of staging geese were up from previous years, mainly as a result of good nesting success for both Canada and snow geese. An estimated 5,437 recreational hunting-days were provided to 2,051 hunters who harvested approximately 12,000 birds with the highest rate of hunter success in the 10 years of the managed hunt. The number of American hunters declined dramatically in 1984 to 40% of the number of hunters in 1983.

Hunting Licences Sold, 1984-85

Type Of Licence	Fee	Number Sold	Revenue
Game Bird			
Resident of Manitoba	$ 7.00	34,234	$223,301.50
Non-Resident (Canadian)	45.00	858	38,246.50
Non-Resident (Non-Canadian)	85.00	3,582	302,861.00
Wild Turkey			
Resident of Manitoba	10.00	152	1,520.00
Moose			
Resident of Manitoba	25.00	7,948	196,043.00
Non-Resident (Canadian)	250.00	6	1,500.00
Non-Resident (Non-Canadian)	300.00	97	29,100.00
Elk			
Resident of Manitoba	30.00	3,135	94,050.00
Woodland Caribou			
Resident of Manitoba	30.00	167	5,010.00
Black Bear			
Resident of Manitoba	12.00	3,714	43,143.00
Non-Resident (Canadian)	50.00	26	1,300.00
Non-Resident (Non-Canadian)	100.00	440	43,958.50
Deer			
Resident of Manitoba	17.00	43,238	714,513.50
Non-Resident (Canadian)	80.00	292	23,360.00
Non-Resident (Non-Canadian)	100.00	53	5,300.00
Total Licence Sales			
Resident of Manitoba		92,588	1,277,581.00
Non-Resident (Canadian)		1,182	64,406.50
Non-Resident (Non-Canadian)		4,172	381,219.50
Sub total		97,942	$1,723,207.00
Replacement	variable	290	1,152.00
Wildlife Certificates	5.00	68,233	309,957.00
TOTAL		166,465	$2,034,316.00

Hunting Licence Sales and Revenue, 1975-76 to 1984-85

	Game Bird		Big Game		Wildlife Certificates		Total Licences & Certificates	
Year	Licences Sold	Revenue	Licences Sold	Revenue	Licences Sold	Revenue	Licences Sold	Revenue
1975-76	48,687	$281,261.50	11,606	$ 190,692.00	53,998	$109,647.25	114,291	$ 581,600.75
1976-77	56,581	367,888.50	13,231	237,423.25	61,494	124,387.25	131,306	729,690.00
1977-78	56,567[1]	379,400.75	52,381	554,025.50	77,862	157,485.00	186,810	1,090,911.25
1978-79	60,061[1]	402,525.75	55,822	596,778.75	82,267	165,835.25	198,150	1,165,139.75
1979-80	59,783[1]	440,639.25	48,250	539,079.50	77,855	157,039.00	185,888	1,136,757.75
1980-81	58,091[1]	460,939.75	60,505	666,291.25	83,022	167,673.00	201,618	1,294,904.00
1981-82	56,203[1]	474,355.50	66,570	713,353.25	83,998	169,719.00	206,771	1,357,427.75
1982-83	51,618[1]	621,183.00	66,711	1,081,211.50	81,225	207,131.50	199,554	1,909,526.00
1983-84	44,731[1]	697.294.50	64,062	1,134,739.50	75,119	266,116.50	183,912	2,098,150.50
1984-85	38,826[1]	565,929.00	59,406	1,158,430.00	68,233	309,957.00	166,465	2,034,316.00

[1] *Includes wild turkey licences.*

Wildlife-Based Revenues, 1984-85

Type of Licence	Revenue
Hunting Licences	
Wildlife Certificates	$ 309,957.00
Game Bird Licences	564,409.00
Black Bear Licences	88,401.50
Replacement Licences	1,152.00
Caribou Licences	5,010.00
Deer Licences	743,173.50
Elk Licences	94,050.00
Moose Licences	226,643.00
Wild Turkey Licences	1,520.00
Subtotal	$2,034,316.00
Commercial Licences	
Trapper Licences	$ 28,769.00
Fur Dealer Licences	4,150.00
Tanner Licences	100.00
Taxidermist Licences	1,375.00
Shooting Preserve Licences	300.00
Dog Trainer Licences	863.00
Game Bird Farm Licences	2,050.00
Amphibian/Reptile Licences	1,225.00
Guide Licences	4,685.00
Subtotal	$ 43,517.00
Fur Royalties	$ 64,683.00
Miscellaneous Revenue	$ 36,071.35
Total	$2,178,585.35

Amphibian and Reptile Harvesting

During the two-week 1984 harvest, 57,245 red-sided garter snakes were captured live and sold to biological supply houses in the United States to be used for medical research, education, or as pets.

A two-month leopard frog harvest yielded 5,922 kilograms of frogs which were sold to dealers in the United States. This is a substantial increase from the 1983 frog harvest.

Wild Fur Management

The value of wild fur harvested in Manitoba during 1984-85 was approximately $4.5 million, up $700,000 from the previous year. Although the number of trapping licences decreased to 15,000, improved fur prices and mild weather contributed to the increased value.

Policy and procedure directives to facilitate the administration of the wild fur resource were completed and are currently being considered for approval. Since policies and administrative procedures had not been changed substantially for 30 years, major revisions were necessary to address contemporary issues.

Increased emphasis was placed on trapper and public education programs. Eleven fur schools were conducted for trappers. With the co-operation of the Manitoba Registered Trappers Association presentations were made to approximately 8,000 public school students. Five trapline officers, based in remote areas, were given a four-week course on humane trapping methods and instructional techniques. These officers will promote the use of improved trapping systems in their districts.

Development and testing of humane trapping devices increased substantially. The Tramping Lake Field Station was used extensively during the winter to field test approved humane traps for effectiveness and efficiency. In addition, approximately 600 humane traps were supplied to professional trappers to obtain scientifically valid data on these devices under specific geographic, climatic and species-selective conditions. This information is required by the Fur Institute of Canada before final approval is given for a trapping system for any furbearing species.

There was a significant change in the direction of the fur program this year. During the 1970's focus was on development to rejuvenate the primary fur industry, but in the 1980's the emphasis has changed to management. To accommodate this change, the Manitoba Registered Trappers Association accepted responsibility for development and implementation of the Special ARDA (Agriculture Rural Development Act) while the branch assumed a stronger role in the development of humane traps and trapping techniques, the promotion thereof, and the implementation of management programs oriented towards maintaining optimum furbearer populations.

Quantity Produced, Average Pelt Price, Value of Production and Provincial Royalty Paid, by Species, for the Year Ending August 31, 1985

Species	Quantity	Average Price	Value	% of Total Value (Approx.)	Royalty per Pelt	Royalty
Badger	499	$ 25.00	$ 12,475	0.3	$ .01	$ 5
Bear	566	40.00	22,640	0.5	.05	28
Beaver	33,812	29.00	980,548	20.6	.75	25,359
Coyote	10,400	69.00	717,600	15.1	.50	5,200
Ermine	10,649	2.50	26,623	0.6	.05	532
Fisher	3,569	196.00	699,524	14.7	1.00	3,569
Fox, Blue	23	25.00	575	0.0	.25	6
Fox, Cross	433	110.00	47,630	1.0	.25	108
Fox, Red	10,078	37.00	372,886	7.8	.25	2,520
Fox, Silver	116	60.00	6,960	0.1	.25	29
Fox, White	245	22.00	5,390	0.1	.75	184
Lynx/Bobcat	419	700.00	293,300	6.2	.50	210
Marten	5,001	65.00	325,065	6.8	.50	2,501
Mink	11,976	37.00	443,112	9.3	1.00	11,976
Muskrat	181,123	3.25	588,650	12.4	.05	9,056
Otter	2,078	36.00	74,808	1.6	1.25	2,598
Raccoon	3,956	25.00	78,900	1.7	.05	198
Squirrel	23,219	1.00	23,219	0.5	.02	464
Wolf, Timber	283	92.00	26,036	0.5	.25	71
Wolverine	92	202.00	18,584	0.4	.75	69
Total			$4,764,525			$64,683

Number of Open Area and Registered Trappers and the Estimated Value of Manitoba Wild Fur Production for the Year Ending August 31[1], 1985

Year	Open Area Licences Sold	Registered Trapline Permits Sold	Production Value
1975-76	6,492	2,680	$4,248,272
1976-77	8,602	2,879	5,528,268
1977-78	8,379	2,975	5,047,377
1978-79	10,040	3,238	7,882,404
1979-80	12,809	3,627	9,625,604
1980-81	13,327	3,425	8,240,619
1981-82	13,072	3,187	5,564,491
1982-83	13,938	3,110	4,313,572
1983-84	12,110	2,927	3,783,562
1984-85	12,917	2,974	4,764,525

[1] *In 1981-82, the department's fur year was changed to the 12-month period ending August 31st. The information for all previous years is based on the 12-month period ending September 30th.*

Wildlife Damage Control

The branch assisted beekeepers to prevent damage by black bears through the removal of problem bears from the vicinity of their hives. In addition, 40 grants of $100 each were approved to help defray the costs of electrified bear-proof fences. In spite of these efforts bear damage to beehive yards did occur, resulting in compensation to beekeepers of $96,000.

Farmers were also assisted to prevent damage to crops by deer and elk. Scaring devices and repellents were used to protect field crops. Because the winter of 1984-85 began early and was more severe than usual, deer and elk began feeding on domestic stored feed. The technique known as intercept feeding, the provision of an alternative food source, was used to stop this activity. The intercept feeding program cost approximately $55,000, and compensation for damage to farm crops by deer, elk and black bears amounted to $186,000.

The summer of 1984 was the last year of a three year agreement between Canada and Manitoba which has financed the special Riding Mountain Beaver Control Program. The Federal Government contributed to this damage control effort on provincial lands around the park because most of the beaver-caused flood damage was due to animals that had left the park.

The Waterfowl Crop Damage Prevention Program was in operation for the second year of a five-year cost-shared agreement between Canada and Manitoba. Crop damage due to waterfowl was light in 1984 due to dry conditions and an early harvest. Program costs of $185,000 were shared equally between Manitoba and Canada.

Wood Bison Re-establishment Program

In 1984-85 the captive herd of wood bison near Waterhen increased from 33 to 61 animals. Eight calves were born, the Calgary Zoo donated two calves, and the Metro Toronto Zoo donated eighteen wood bison. The enclosure was expanded to the planned 2,300 hectares and construction of the corral was completed. The bison experienced some difficulty in feeding due to adverse snow conditions and their previous acclimatization to zoo conditions, but they survived the winter in good condition. The herd will be allowed to increase while plans are made to implement the first release to the wild in 1987 or 1988 in an effort to meet the primary objective of establishing a wild herd of bison in Manitoba.

In September 1984, the project was visited by His Serene Highness, Prince Albert of Monaco. Prince Albert, along with Her Honour Pearl McGonigal, Lieutenant-Governor of Manitoba, and artist, Robert Bateman, is a patron of the Wood Bison Re-establishment Foundation Inc. which was established to provide funding support for Waterhen Wood Bison Ranches Ltd., a Waterhen Indian Band Corporation.

Habitat Management Programs

Wildlife Habitat Inventory

An inventory of moose habitat in the 152,000 km^2 Northern Flood Agreement area was completed during 1984-85. Two sets of 49 colour-coded habitat maps were produced. One set was used by the branch to assist in the implementation of aerial moose population surveys conducted during the winters of 1983-84 and 1984-85. The other set of maps is to be sent to the respective communities after presentation to the Wildlife Advisory and Planning Board.

An inventory of deer habitat in Agro-Manitoba was initiated in 1984-85, to quantify the amount of tree and shrub cover in each Game Hunting Area (an expanse of aproximately 100,000 km^2). The long-term objective is to repeat the inventory in order to establish rates of habitat loss in the various regions over time. Two additional staff were trained to conduct the computer analysis of the Landsat digital information.

A pilot wetlands inventory was also begun during the year as a joint project with the Canadian Wildlife Service. It is intended to assess the application of Landsat digital data for mapping small prairie wetlands and associated avian upland habitat.

Wildlife Management Area Program

Manitoba Regulation 187/84 added a net 17,145 hectares (42,862 acres) of Crown lands to the Provincial Wildlife Management Area (WMA) system. Eleven new areas were established, and additions were made to 12 existing units. Negotiations through the Local Government District Land Exchange Program returned a total of 9,472 hectares (23,680 acres) of WMA land to the local governments. Continuation of existing agricultural commitments on these lands is guaranteed, and arrangements were finalized to allow the Province to begin paying grants-in-lieu of taxes for Crown lands in WMAs, effective January 1st, 1985.

Developments included boundary delineation, public access and facility enhancement, and numerous wildlife habitat management projects such as development of nesting cover, food plots, water control and supply, and various habitat manipulation activities.

The administration of agricultural uses on approximately 450 quarter sections of WMA lands is presently handled by the Department of Agriculture. Work continued to facilitate transfer of this function to the Department of Natural Resources on January 1st, 1986. The necessary policies and procedures were developed, the legislative instruments were effected, and the relevant information was incorporated in a computerized data storage and retrieval system.

Wetland Management Program

Designation of the Rat River Wildlife Management Area provided a land base for a potential wetland development, in co-operation with L.G.D. of Stuartburn and Ducks Unlimited. The potential development includes almost 3,200 hectares (8,000 acres) of burned peat land. The project will be designed to provide flood protection to some agricultural lands and also to provide improved habitat for waterfowl and furbearers.

Mitigation for habitat destroyed in the construction of the Big Grass River Angle Ditch has resulted in the establishment of the Big Grass River Unit of the Whitemud Watershed WMA. On completion of the floodway, the bottom lands at the lower end of the floodway will be managed for waterfowl nesting and hay production.

The branch has been working with the Delta Agricultural Conservation Co-operative (D.A.C.C.) to improve agricultural drainage and wetland habitat management in the vicinity of the Delta Marsh. Problems associated with the Portage Diversion East Outside Drain and the Mud Creek drain outlet to Cadham Bay are being examined. A development plan for the School Bay Management Unit of Delta Marsh is being considered by an ad hoc committee with representatives from D.A.C.C., the R.M. of Portage la Prairie, the Delta Waterfowl Research Station and representatives from appropriate government departments.

In 1984, seven projects of Ducks Unlimited involving 870 hectares of Crown land were reviewed and approved by the branch. Advisory committees for the Saskeram, Summerberry and Oak Hammock projects met on a regular basis during the year to evaluate management plans and activities.

Three Wildlife Habitat Canada projects that involve wetland habitat were authorized in Manitoba in cooperation with the Province. The Kissick Project involves acquisition of 160 acres in the Killarney area that has an existing Ducks Unlimited project and a woodland area. The Manitoba Wildlife Federation and the Manitoba Naturalists Society also contributed to the acquisition. The Akudlik Marsh Project will emphasize the water-level management and interpretive development in the Cape Churchill Special Conservation Area for the rare Ross' gull nesting area. The Habitat Enhancement and Land-use Program (H.E.L.P.), that will begin in the Minnedosa Area in 1986, is the third project of Wildlife Habitat Canada. This project will be designed in co-operation with a local advisory committee to preserve habitat and alter land-use practices through financial incentives to enhance waterfowl production on private lands.

Deer and Elk Feeding

Deep early snows and freezing rains in western Manitoba prompted public requests to feed deer and elk through a $228,500 emergency feeding program. With the help of an estimated 900 volunteers, departmental staff fed approximately 12,000-15,000 deer and 500-700 elk in about 600-700 separate locations. Total expenditures were approximately $250,000, including costs for depredation prevention.

An estimated 835 tonnes of pelleted deer feed were purchased by the branch with another 50 tonnes purchased by other groups. Several hundred tonnes of hay were also purchased and fed to deer and elk. The Manitoba Wildlife Federation and local groups contributed heavily to the purchase of hay and feed. A large percentage of the volunteers were associated with game and fish associations. The emergency efforts probably saved 3,000-4,000 deer from death by starvation, and prevented severe damage to stored forage crops in western Manitoba.

In addition to the emergency feeding program, the branch's on-going supplemental feeding program continued at 70 feeding locations throughout the southern Manitoba deer range.

Manitoba Habitat Heritage Program

Subject to the availability of funds, the projected budget of $1.5 million for the first four-years of the program is to be allocated among fish and wildlife habitat projects with $250,000 in fiscal years 1984-85 and 1985-86, and $500,000 in 1986-87 and 1987-88. In 1984-85 the wildlife habitat thrusts under this program involved the purchase of two quarter sections of prime upland habitat in southwestern Manitoba and the construction of small dams in the John McPhail Refuge, and in the Gerald W. Malaher and West Derby Wildlife Management Areas. Watering holes were dug in the Belair Forest Reserve, and forage food plots were established in several Interlake WMA's, the Alonsa W.M.A., and in the Duck Mountain and Sandilands Provincial Forests. Habitat for moose on Hecla Island was rejuvenated, and some 100 wood duck nesting boxes were purchased for placement by the "Greenwing Youth Club" of the Turtle Mountain Ducks Unlimited Committee. A good deal of background work was done to develop the methodology for Habitat Protection Agreements under which landowners will be compensated for maintaining strategic habitats on their land.

Road Allowance Program

A 35-mm slide presentation entitled, **Ribbons of Habitat — Manitoba's Undeveloped Road Allowances**, was prepared to promote the preservation of wildlife habitat on unused municipal road allowances. This presentation was made to the Rural Municipalities of South Cypress at Glenboro, Ellice at St-Lazare, Silver Creek at Angusville, Riverside at Dunrea, Saskatchewan at Rapid City, and Edward at Pierson. This presentation was also made to the Manitoba Wildlife Federation at their annual convention, to the staff of the Department of Agriculture at Brandon, to the La Verendrye and Turtle Mountain Wildlife Associations and to field staff of the Department of Natural Resources in southwestern Manitoba.

The Rural Municipality of Odanah passed a by-law prohibiting the destruction of vegetation on undeveloped allowances, and several other municipalities are contemplating similar action.

Land-use Rationalization

The branch prepared reports and made recommendations on wildlife resources in their respective areas to five planning districts.

Inputs were also provided on Crown land use planning through the Crown Land Classification Committee and representation on the Block Planning Committees. Over 240 specific Crown land use requests were reviewed, along with environmental impact statements for the Limestone Project and the Gillam to Churchill Hydro Corridor.

Oak Hammock Marsh

In addition to the funding from Destination Manitoba for the development of visitor services, on January 11th 1985 the Province of Manitoba and Ducks Unlimited signed a 10-year agreement that will provide $1.9 million for development of Oak Hammock Marsh WMA. As noted in the Water Resources section of this report, these improvements included construction of a diversion to channel additional water into Oak Hammock from Wavey Creek, improved drainage through Dewar Drain and Parks Creek, habitat improvements, and visitor facility upgrading. The developments will augment marsh wildlife productivity, assist in controlling outbreaks of avian botulism in the future, and enhance public viewing of wildlife.

Biological Services

Canada Goose Studies

Studies of the eastern prairie populations of Canada geese continued with the financial support from several wildlife agencies in the Mississippi Flyway (Minnesota, Iowa, Missouri, Arkansas and Manitoba) and the U.S. Fish and Wildlife Service. Over 1,700 geese were live-trapped and banded in early August near Cape Churchill. A number of these marked birds were later observed near Oak Hammock and the surrounding area during the fall migration. Agencies throughout the Mississippi Flyway are making a co-operative effort to observe and report marked geese during the spring and fall migrations. The information will be used to aid in population management.

Spring nesting surveys of giant Canada geese in the Lake Manitoba Narrows area revealed good nesting success with a relatively early hatch.

Waterfowl Banding

In 1984 a total of 16,356 ducks were banded in Manitoba, as part of the long-term evaluation of waterfowl hunting in the province.

Hunter bag checks continued at traditional waterfowl staging areas in 1984. Information on harvest, hunter numbers and attitudes toward waterfowl seasons was obtained.

Bald Eagle Surveys/Transplants

Manitoba supplied 10 young bald eagles to the U.S. Fish and Wildlife Service in 1984 as part of a three-year agreement. The eaglets were released in New Jersey as part of a restocking program for the northeastern United States. In 1984 over 130 active bald eagle nests were found during nesting surveys in the Whiteshell, Interlake and Northwest.

Big Game Surveys

Aerial surveys of the moose population in the Northern Flood Agreement area was completed in the last quarter of 1984-85. The densities of moose varied considerably within the area. Many areas appeared to be capable of holding many more moose than were seen. Ongoing consultation with communities will be oriented towards protecting areas of high population density, and increasing the number of moose in depleted areas.

An aerial survey of moose was conducted in the eastern portion of Game Hunting Area 21, in the central Interlake. Habitat was mapped using Landsat-based techniques developed during Northern Flood Agreement moose surveys, which effected considerable savings in the cost of the survey. The approximate population of the area surveyed is 1,200 moose, which is more than had been predicted on the basis of success rates of moose hunters in recent years, and is attributable to high-density pockets of moose in remote areas.

Deer surveys were flown in Game Hunting Areas 31A, 27, and 22 in southwestern Manitoba. Preliminary analysis indicates that there are significant differences in abundance in the areas. Data is being analyzed further in an attempt to determine whether the differences can be attributed to variations in hunting seasons, land use or other factors.

Elk surveys were not flown in 1984-85 in order to enable a larger portion of funds to be allocated to deer surveys. The latter had not been conducted for several years because of unsuitable snow conditions.

Biometrics

Two simulation models were completed in 1984-85. They were version 3.0 of the General Ungulate Model, and Polarpop, a model for short-term forecasting of changes in polar bear populations. The ungulate model was distributed within the department and to colleagues in other government agencies. It is now the branch's standard model for evaluating management plans. The polar bear model was presented in December to a working group of federal, provincial and university biologists and technicians, and in February, to the Polar Bear Technical Committee. Modelling work is continuing on a co-operative basis with the objective of integrating the two existing models and providing software which will allow more precise simulation of the population dynamics of polar bears in Manitoba and over longer periods of time.

Rare and Endangered Species

The reproduction of burrowing owls in southwestern Manitoba in 1984 was less than half that recorded in 1982. The birds have not recovered from a snowstorm in May 1983 which caused considerable mortality. One young owl banded during the summer of 1983 was recovered several months later in Texas. It, and two others found near nesting sites in Manitoba, had been struck by automobiles.

Seven peregrine falcons were raised and released from Mary Speechly Hall at the University of Manitoba in July and August of 1984.

In the summer of 1984, 28 adult and juvenile great gray owls were radio-marked as part of a four-year habitat use, movement, and population dynamics study.

Photographs of Manitoba's American white pelican colonies revealed more than 20,000 nests in 1984. This work was made possible through a three-year funding agreement with the World Wildlife Fund (Canada) Ltd.

Monitoring of leopard frog and garter snake populations revealed that leopard frog populations are reaching commercially exploitable levels. Garter snake populations remain stable in unexploited areas.

Regional Wildlife Management

Eastern/Southeastern Regions

A black bear survey was completed in the Eastern Region to obtain information on the number, food habits, and reproductive success of the bears. Initial indications are that the number of bears in 1984 is down from that obtained in a similar survey in 1983.

The Manitoba Habitat Heritage Program provided for the development of several habitat enhancement plots for deer and grouse in Agassiz Provincial Forest. This program also provided for the upgrading of dugouts in Belair Provincial Forest to provide water to wildlife during the dry seasons of the year.

Moose surveys were flown in the Eastern and Whiteshell Regions to obtain information on male/female ratios and reproductive success. Indications are that the moose population in the more remote areas east of Lake Winnipeg (GHA 17A) are in good shape compared to those in the highly accessible areas (GHA 26). Age-sex surveys in the Whiteshell show a low density of moose. A new corridor wildlife refuge has been established along major access roads in GHA 17A. The Chief George Barker Wildlife Refuge, extending 300 metres on either side of the centre line, will provide protection to moose frequently observed along the roadsides.

Eight nesting boxes for wood ducks were erected in the Beaver Creek area of Whiteshell Provincial Park.

Southwestern Region

The process of investigating Crown lands in the southwestern Region with potential for becoming Wildlife Management Areas began with endorsement from the Block Planning Committee and Municipal Councils. Other activities in the Southwestern Region W.M.A.'s included:

i. erection of a windmill in the Lauder Sandhills W.M.A. to supply water for wildlife;

ii. posting of 104 miles of W.M.A. boundary with metal and wooden feature signs;

iii. signing of ski trails, seeding of trails and the blasting of obstructing boulders in Brandon Hills W.M.A.;

iv. development of three impoundments on W.M.A.'s and a refuge under the Habitat Heritage Program;

v. assisting Regional Services Branch with a tree planting effort on part of the Assiniboine Corridor W.M.A.;

vi. monitoring the non-resident waterfowl hunter use in Whitewater Lake and Big Grass Marsh areas:

vii. duck banding at Oak Lake and the posting of 56 miles of wildlife refuge boundary; and

viii. major involvement with the provincial deer-feeding program, both emergency and supplemental, throughout the region.

Western Region

A major emergency deer-feeding program that involved most natural resource officers and Wildlife Branch staff in the region, along with approximately 100 public volunteers, was carried out between December 15, 1984 and April 15, 1985. The program provided feed for an estimated 7,000 deer and 600 elk.

Boundaries were delineated and cleared on two new W.M.A.'s with the co-operation of the Surveys Branch and a grant from Environment 2000 which covered the labour costs of six persons.

A total area of 60 acres was bulldozed in the Alonsa W.M.A. in the form of small plots, which will be cleaned and prepared for seeding for an alfalfa crop as part of the program providing green feed for deer.

Northeastern Region

The Wildlife Management Project, a project funded through the Resource Development Program under the Canada-Manitoba Northern Development Agreement, was continued. Efforts were directed primarily at management of barren-ground caribou, woodland caribou, moose and polar bears, and involvement of those communities and towns concerned with these populations.

The annual Polar Bear Control Program at Churchill was continued with the co-operation of the Regional Services Branch. Only 59 calls were received. Nine bears were held until freeze-up and then released, eight were sent to zoos, and two had to be destroyed. As a result of several serious human/bear encounters in 1984 and 1985, a revised and expanded program is proposed for implementation in 1985-86.

Northwestern Region

As part of the $3.5 million agreement between Ducks Unlimited and the province, work continued on the rerouting of waterways and the construction of new control structures at the Saskeram Wildlife Management Area. Work also continued on waterway improvement, control structure maintenance and marsh drawdowns at the Summerberry Marsh as part of the $1.4-million 50-year agreement between Ducks Unlimited and the province.

A committee representing The Pas, Moose Lake and Easterville Indian Bands, the Cormorant and Moose Lake Community Councils, and The Pas Area Wildlife Federation is being formed to deal with the decreasing moose population in G.H.A. 8. The committee will review several options including harvest restrictions, predator control, and habitat improvement.

Aircraft and snowmobiles were used in G.H.A. 8 during the winter of 1984-85 to determine timber wolf populations, their movement patterns, and their effect on the resident moose population. Preliminary results indicate that there are more wolves than anticipated and that they may be having a greater effect on moose than originally presumed.

Interlake Region

A moose population survey was flown in a major part of G.H.A. 21 in the Interlake Region, using a new method of stratifying the survey area on the basis of habitat type. Good estimates were obtained of the density and population of moose in the area. The moose herd appears to be rebounding from previous low levels.

Conclusion

The fiscal year 1984-85 witnessed many accomplishments in the field of natural resource management. The Department of Natural Resources has contributed significantly to the economic well-being of Manitoba; provided employment opportunities, both directly and indirectly; and provided a wide range of recreational opportunities. Considerable progress was also made in protection measures against floods, wildfires, and other adverse phenomena related to the management of natural resources.

Appendix I

Summary of Revenue and Expenditures

Revenue, 1984-85

Branch	Revenue
Fisheries	$ 1,447,600.
Forestry	2,708,600.
Lands	1,376,500.
Municipalities (Shared-cost Receipts)	17,100.
Parks	4,559,200.
Water Resources	12,163,400.
Wildlife	2,176,500.
Sundry	470,100.
Sale of Government Assets	1,200.
Government of Canada (Shared-cost receipts)	1,615,000.
Total	$26,535,200.

Expenditures by Appropriation, 1984-85

Appropriation Number	Service	1984/85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-1	ADMINISTRATION AND FINANCE				
	a) Minister's Salary	18.1	19.6	(1.5)	—
	b) Executive Support				
	Salaries	218.4	212.4	6.0	—
	Other Expenditures	78.6	86.2	(7.6)	—
	c) Research and Planning				
	Salaries	480.9	489.6	(8.7)	—
	Other Expenditures	42.6	45.8	(3.2)	—
	d) Communications				
	Salaries	251.6	283.9	(32.3)	—
	Other Expenditures	190.0	194.5	(4.5)	—
	e) Financial Services				
	Salaries	629.4	684.0	(54.6)	—
	Other Expenditures	162.0	171.6	(9.6)	—
	f) Personnel Services				
	Salaries	519.9	521.9	(2.0)	—
	Other Expenditures	102.6	104.8	(2.2)	—
	g) Computer Services				
	Salaries	248.5	259.2	(10.7)	—
	Other Expenditures	49.3	50.3	(1.0)	—
	h) Administrative Services				
	Salaries	585.9	586.7	(0.8)	—
	Other Expenditures	94.8	97.2	(2.4)	—
	j) Internal Audit				
	Salaries	118.9	116.7	2.2	—
	Other Expenditures	5.3	7.0	(1.7)	—
	TOTAL 12-1	3,796.8	3,931.4	(134.6)	

Appropriation Number	Service	1984/85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-2	REGIONAL SERVICES				
	a) Administration				
	Salaries	566.2	666.3	(100.1)	1
	Other Expenditures	442.0	529.9	(87.9)	2
	Problem Wildlife Control	155.7	140.2	15.5	—
	b) Northwest Region				
	Salaries	914.6	956.1	(41.5)	—
	Other Expenditures	377.8	387.3	(9.5)	—
	c) Northeast Region				
	Salaries	899.1	998.1	(99.0)	—
	Other Expenditures	633.8	629.9	3.9	—
	d) Interlake Region				
	Salaries	1,166.0	1,235.0	(69.0)	—
	Other Expenditures	449.7	449.9	(0.2)	—
	e) Southwestern Region				
	Salaries	753.2	756.7	(3.5)	—
	Other Expenditures	276.5	255.8	20.7	—
	f) Western Region				
	Salaries	1,032.9	1,028.1	4.8	—
	Other Expenditures	447.8	452.0	(4.2)	—
	g) Southeastern Region				
	Salaries	1,357.3	1,482.0	(124.7)	—
	Other Expenditures	541.3	549.2	(7.9)	—
	h) Eastern Region				
	Salaries	761.5	797.9	(36.4)	—
	Other Expenditures	267.9	273.5	(5.6)	—
	j) Enforcement and Legislative Services				
	Salaries	215.8	244.0	(28.2)	—
	Other Expenditures	76.8	86.5	(9.7)	—
	k) Fire Suppression — Administration				
	Salaries	375.2	389.6	(14.4)	—
	Other Expenditures	509.6	531.5	(21.9)	—
	m) Fire Suppression — Operations				
	Salaries	1,358.4	1,295.7	62.7	—
	Other Expenditures	8,195.1	4,040.8	4,154.3	3
	Northern Development Agreement — Provincial — Fire Tac Crews	1,575.4	1,346.4	229.0	—
	TOTAL 12-2	23,349.6	19,522.4	3,827.2	

Explanation Number:

1. Surplus resulting from vacant positions and less use of term time.
2. Surplus resulting from postponing purchase of specialized medical equipment for Grand Beach and Falcon Lake.
3. Deficit resulting from extensive use of helicopters and water bombers during the 1984-85 major-fire season.

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-3	ENGINEERING AND CONSTRUCTION				
	a) Administration				
	Salaries	489.7	466.1	23.6	—
	Other Expenditures	96.9	103.2	(6.3)	—
	b) Technical Services				
	Salaries	1,194.2	1,241.9	(47.7)	—
	Other Expenditures	103.9	91.0	12.9	—
	c) Regional Engineering Services				
	Salaries	3,939.4	3,928.0	11.4	—
	Other Expenditures	874.9	859.6	15.3	—
	d) Conservation District Authority				
	Salaries	53.7	53.8	(0.1)	—
	Other Expenditures	1.9	2.2	(0.3)	—
	TOTAL 12-3	6,754.6	6,745.8	8.8	

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-4	WATER RESOURCES				
	a) Administration				
	Salaries	309.7	310.2	(0.5)	—
	Other Expenditures	97.7	97.4	0.3	—
	b) Water Licensing				
	Salaries	356.8	359.2	(2.4)	—
	Other Expenditures	175.5	197.5	(22.0)	—
	c) Water Management				
	Salaries	1,175.8	1,188.0	(12.2)	—
	Other Expenditures	174.5	211.6	(37.1)	1
	Waterway Maintenance	3,692.5	3,888.8	(196.3)	2
	d) Water Investigations				
	Salaries	991.7	1,018.8	(27.1)	—
	Other Expenditures	667.6	666.3	1.3	—
	e) Regional Management				
	Salaries	276.2	276.3	(0.1)	—
	Other Expenditures	33.0	41.4	(8.4)	3
	f) Canada-Manitoba Water Development Agreement				
	Salaries	37.9	58.4	(20.5)	4
	Other Expenditures	220.0	347.1	(127.1)	5
	g) Canada-Manitoba Flood Damage Reduction Agreement				
	Salaries	190.5	234.3	(43.8)	6
	Other Expenditures	68.8	214.0	(145.2)	7
	h) Canada-Manitoba Value-Added Crops Production Agreement				
	Salaries	26.5	27.7	(1.2)	—
	Other Expenditures	.0	2.1	(2.1)	8
	TOTAL 12-4	8,494.7	9,139.1	(644.4)	

Explanation Number:

1. Surplus resulting from less activity than anticipated.
2. Several of the 620 maintenance projects were either not started or not completed due to adverse weather conditions and lower-than-budgeted equipment-rental rates.
3. Surplus resulting from fewer field trips due to less program activity.
4. Surplus resulting from redeployment of staff from this program earlier than planned.
5. Surplus resulting from work originally to be cost-shared with the Federal Government being completed by the Federal Government, and from other work done in-house by Manitoba rather than by consultants as planned.
6. Lighter work-load than anticipated.
7. Surplus resulting from the designation of fewer flood-risk areas than anticipated, from less computer-related expenditures and from savings occurred by not installing a data collection station.
8. Surplus resulting from fewer field trips due to the anticipated completion of program.

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-5	PARKS				
	a) Administration				
	Salaries	211.7	220.9	(9.2)	—
	Other Expenditures	114.7	122.3	(7.6)	—
	b) Park Planning				
	Salaries	629.7	657.2	(27.5)	—
	Other Expenditures	118.9	156.6	(37.7)	1
	c) Program Management				
	Salaries	251.5	252.0	(0.5)	—
	Other Expenditures	60.2	54.8	5.4	—
	d) Park Maintenance				
	Salaries	8,011.7	8,076.7	(65.0)	—
	Other Expenditures	2,798.2	2,810.2	(12.0)	—
	e) Visitor Services				
	Salaries	318.6	376.5	(57.9)	—
	Other Expenditures	94.3	102.2	(7.9)	—
	f) Grant to the International Peace Gardens	51.7	51.7	—	—
	TOTAL 12-5	12,661.2	12,881.1	(219.9)	

Explanation Number:

1. Surplus resulting from work being carried out in-house instead of by consultants, and from not printing park management plans as anticipated.

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-6	LANDS				
	a) Administration				
	Salaries	147.4	155.3	(7.9)	—
	Other Expenditures	10.7	13.0	(2.3)	—
	b) Crown Lands Administration				
	Salaries	722.4	725.0	(2.6)	—
	Other Expenditures	105.3	96.5	8.8	—
	c) Regional Management				
	Salaries	296.6	309.0	(12.4)	—
	Other Expenditures	95.6	76.9	18.7	1
	d) Crown Lands Registry				
	Salaries	260.5	258.0	2.5	—
	Other Expenditures	210.8	189.4	21.4	—
	e) Northern Development Agreement — Provincial — Wild Rice				
	Salaries	105.6	121.9	(16.3)	—
	Other Expenditures	43.2	29.9	13.3	2
	TOTAL 12-6	1,998.1	1,974.9	23.2	

Explanation Number:

1. Deficit resulting from non-budgeted relocation and travel costs.
2. Deficit resulting from hiring a person to liaise between the department and the Native groups during the wild-rice season.

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-7	FORESTRY				
	a) Administration				
	Salaries	147.2	144.9	2.3	—
	Other Expenditures	16.9	17.1	(0.2)	—
	Grant Assistance	25.4	25.4	—	—
	b) Forest Inventory				
	Salaries	546.8	568.9	(22.1)	—
	Other Expenditures	138.8	142.9	(4.1)	—
	c) Forestry Development and Economics				
	Salaries	47.8	47.8	—	—
	Other Expenditures	5.5	6.8	(1.3)	—
	d) Forest Management				
	Salaries	332.6	380.2	(47.6)	—
	Other Expenditures	954.8	1,022.0	(67.2)	—
	e) Forest Protection				
	Salaries	664.2	729.9	(65.7)	—
	Other Expenditures	21.3	22.0	(0.7)	—
	Dutch Elm Disease Control	1,316.3	1,331.9	(15.6)	—
	f) Regional Management				
	Salaries	662.3	681.2	(18.9)	—
	Other Expenditures	210.7	222.8	(12.1)	—
	g) Northern Development Agreement — Provincial — Forest Renewal				
	Salaries	412.8	488.2	(75.4)	—
	Other Expenditures	1,339.4	1,507.6	(168.2)	—
	TOTAL 12-7	6,842.8	7,339.6	(496.8)	

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-8	FISHERIES				
	a) Administration				
	Salaries	199.2	200.5	(1.3)	—
	Other Expenditures	47.5	40.0	7.5	—
	b) Regional Management				
	Salaries	698.4	694.4	4.0	—
	Other Expenditures	245.8	214.0	31.8	—
	c) Fish Culture:				
	Salaries	549.5	577.5	(28.0)	—
	Other Expenditures	220.1	219.0	1.1	—
	d) Fisheries Enhancement				
	Salaries	501.9	514.1	(12.2)	—
	Other Expenditures	88.5	92.5	(4.0)	—
	e) Commercial Fishing Management				
	Salaries	183.4	185.8	(2.4)	—
	Other Expenditures	23.2	32.0	(8.8)	1
	f) Sport Fishing Management				
	Salaries	133.5	134.5	(1.0)	—
	Other Expenditures	40.1	40.0	0.1	—
	g) Northern Fishermen's Freight Assistance	279.2	342.6	(63.4)	—
	h) Fishermen's Loan Program — Administration	379.6	379.6	—	—
	TOTAL 12-8	3,589.9	3,666.5	(76.6)	

Explanation Number:

1. Surplus resulting from delay in introducing quota entitlement.

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-9	WILDLIFE				
	a) Administration				
	Salaries	166.1	164.3	1.8	—
	Other Expenditures	22.4	20.4	2.0	—
	b) Wildlife Management				
	Salaries	441.5	439.2	2.3	—
	Other Expenditures	137.9	132.0	5.9	—
	Grant Assistance	5.0	5.0	—	—
	Big Game Damage Compensation	318.5	165.3	153.2	1
	c) Habitat Management				
	Salaries	427.8	482.5	(54.7)	—
	Other Expenditures	363.1	186.5	176.6	2
	d) Biological Services				
	Salaries	372.4	361.5	10.9	—
	Other Expenditures	203.0	173.2	29.8	—
	Grant Assistance	.0	12.0	(12.0)	3
	e) Regional Management				
	Salaries	419.9	425.8	(5.9)	—
	Other Expenditures	244.2	245.9	(1.7)	—
	f) Northern Development Agreement — Provincial — Wildlife Management				
	Salaries	109.3	111.6	(2.3)	—
	Other Expenditures	130.1	124.4	5.7	—
	g) Wildlife Fur Management				
	Salaries	384.9	379.0	5.9	—
	Other Expenditures	338.0	161.9	176.1	4
	Grant Assistance	60.9	30.9	30.0	4
	h) Canada-Manitoba Waterfowl Damage Prevention Agreement	181.1	200.0	(18.9)	—
	TOTAL 12-9	4,326.1	3,821.4	504.7	

Explanation Number:

1. Deficit from many more claims for compensation for big-game damage.
2. Deficit resulting from non-budgeted staff relocation costs and from funding the Emergency Deer Feeding Program.
3. Surplus resulting from the non-payment of the University of Manitoba grant for wildlife research due to administrative restrictions.
4. Deficit resulting from the agreement with the federal government to deliver services to trappers subsequent to the finalization of the 1984-85 estimates.

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-10	SURVEYS AND MAPPING				
	a) Administration				
	Salaries	261.8	254.8	7.0	—
	Other Expenditures	41.0	41.7	(0.7)	—
	b) Legal Surveys				
	Salaries	611.0	585.3	25.7	—
	Other Expenditures	167.3	201.3	(34.0)	—
	c) Control Surveys and Mapping				
	Salaries	853.9	910.0	(56.1)	—
	Other Expenditures	166.0	186.2	(20.2)	—
	d) Geographic Mapping				
	Salaries	407.1	420.4	(13.3)	—
	Other Expenditures	111.5	114.1	(2.6)	—
	e) Map Distribution and Remote Sensing				
	Salaries	249.9	238.5	11.4	—
	Other Expenditures	284.3	258.7	25.6	—
	Recoverable from Other Appropriations	119.1 CR	123.0 CR	3.9	—
	TOTAL 12-10	3,034.7	3,088.0	(53.3)	

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-11	RESOURCE SUPPORT PROGRAMS				
	a) Manitoba Water Commission				
	Salaries	46.5	53.2	(6.7)	—
	Other Expenditures	40.6	40.2	0.4	—
	b) Barrison Diversion Opposition				
	Salaries	57.7	57.7	—	—
	Other Expenditures	101.9	128.0	(26.1)	—
	c) Conservation Districts Commission				
	Salaries	.0	150.0	(150.0)	1
	Other Expenditures	.0	10.0	(10.0)	1
	d) Habitat Enhancement Fund	239.9	250.0	(10.1)	—
	e) Natural Resource Institute Grant	20.0	20.0	—	—
	TOTAL 12-11	506.6	709.1	(202.5)	

Explanation Number:

1. Surplus resulting from delay in commencement of program.

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
	EXPENDITURES RELATED TO CAPITAL ASSETS				
12-12A	ACQUISITION/CONSTRUCTION OF PHYSICAL ASSETS — NORTHERN DEVELOPMENT AGREEMENT — PROVINCIAL				
12-12A-1	PARKS				
	a) Northern Parks Development	236.3	242.5	(6.2)	—
12-12B	ACQUISITION/CONSTRUCTION OF PHYSICAL ASSETS — OTHER CAPITAL PROJECTS				
12-12B-1	WATER RESOURCES				
	a) Land Drainage Reconstruction	523.7	966.1	(442.4)	1
	b) Bridge Replacement Program	500.0	515.0	(15.0)	—
	c) Value-Added Crops Production Agreement	1,140.9	2,391.0	(1,250.1)	2
	d) Water Development Agreement	899.4	900.0	(0.6)	—
	e) Pasquia-Polder III	72.4	250.0	(177.6)	3
	f) Oak Lake Regulation	.0	75.0	(75.0)	4
	g) Dennis Lake Regulation	.0	100.0	(100.0)	5
	h) Vermillion River Dam	6.4	.0	6.4	6
	j) Emerson Subdivision	884.9	.0	884.9	7
	TOTAL 12-12B-1	4,027.7	5,197.1	(1,169.4)	
12-12B-2	PARKS				
	a) Park Development — Facilities and Infrastructure Improvements	1,527.3	1,617.4	(90.1)	—
	b) Vacation Home Lot Program	125.0	130.0	(5.0)	—
	c) Park Development — Major New Initiatives	418.1	500.0	(81.9)	—
	d) Cottage Lots — Eastern Manitoba	.0	150.0	(150.0)	9
	e) Papal Visit	0.7 CR	.0	(0.7)	10
	f) Land Acquisition	77.2	0.0	77.2	11
	z) Recoverable from Other Departments	140.0 CR	200.0 CR	60.0	8
	TOTAL 12-12B-2	2,006.9	2,197.4	(190.5)	
12-12B-3	FORESTRY				
	a) Equipment — Forest Renewal	43.9	45.0	(1.1)	—
12-12B-4	FISHERIES				
	a) Equipment Purchases	47.7	50.0	(2.3)	—
	b) Winnipegosis/Duck Bay Hatchery	50.7	50.0	0.7	—
	TOTAL 12-12B-4	98.4	100.0	(1.6)	

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
12-12B-5	WILDLIFE				
	a) Equipment Purchases	23.0	23.0	—	—
	b) Delta Channel Improvements	3.1	20.0	(16.9)	12
	c) Narcisse Snake Dens	4.7	5.0	(0.3)	—
	d) Oak Hammock Marsh	336.6	383.0	(46.4)	—
	z) Recoverable from Other Departments	88.0 CR	133.0 CR	45.0	13
	TOTAL 12-12B-5	279.4	298.0	(18.6)	
12-12B-6	SURVEYS AND MAPPING				
	a) Equipment Purchases	137.6	25.0	112.6	14
12-12B-7	ENGINEERING AND CONSTRUCTION				
	a) Materials Inventory	20.0	150.0	(130.0)	15
12-12B-8	REGIONAL SERVICES				
	a) Equipment Purchases	250.0	250.0	.0	—
12-12B-9	LANDS				
	a) Cottage Lot Subdivisions Upgrading	91.1	100.0	(8.9)	—
12-12B-10	HOLDING ACCOUNT				
	a) Payments	1,694.1	2,500.0	(805.9)	—
	b) Recoveries	1,694.1 CR	2,500.0 CR	805.9	—
	TOTAL 12-12B-10	—	—	—	
	SUBTOTAL 12-12B	6,955.0	8,362.5	(1,407.5)	
12-12C	CAPITAL GRANTS	1,864.4	1,926.5	(62.1)	—
	TOTAL 12-12	9,055.7	10,531.5	(1,475.8)	

Explanation Number:

1. Surplus resulting from delays in acquiring right-of-way, lower-than-budgeted contract prices, lengthy negotiations with other agencies (CNR, etc.) and adverse weather conditions.
2. Surplus resulting from difficulty encountered in assembling required right-of-way for the Cooks Creek project. Therefore, construction planned for 1985/86 could not begin. Prolonged negotiations with another agency resulted in the postponement, to 1985/86, of the construction of a major element of the McTavish Drain and Roberts Drain.
3. Surplus resulting from construction materials not being purchased pending outcome of negotiations with the Federal Government on a cost-sharing agreement.
4. Surplus resulting from lack of agreement between local interest groups, Ducks Unlimited and the Province on the proposed works coinciding with the long-term management plans for the lake.
5. Surplus resulting from lack of consensus on level of regulation for Dennis Lake in time to proceed with project in 1984/85.
6. Canada and Manitoba cost-shared the construction of the dam in 1981. The Agreement stipulated that any repairs would be made by the Federal Government, and Manitoba would be billed for its portion, but late notification prevented the Province from budgeting for its share.
7. Deficit resulting from lump sum payment to CP Rail for ongoing maintenance on Manitoba's behalf of the Emerson Subdivision Bridge.

8. Deficit resulting from late start of a project with costs recoverable from Destination Manitoba.
9. Surplus resulting from delays in agreement on the amount of service to be provided to the cottage lots.
10. Surplus resulting from an over estimation of expenditures.
11. Deficit resulting from settlement of expropriation claims on Hecla Island for which no funding was provided in the estimates.
12. Surplus resulting from minimum maintenance due to good weather and natural growth of grass cover.
13. Due to good weather conditions, costs of work performed for and recoverable from other Departments did not reach the anticipated levels.
14. Deficit resulting from purchase of equipment not provided for in the estimates.
15. This is a revolving inventory account. Cost of goods purchased for construction during the fiscal year exceeded the costs of goods used on projects in 1984/85.

Appropriation Number	Service	1984-85			Explanation Number
		Actual ($'000)	Estimate ($'000)	Variance ($'000)	
	JOBS FUND				
12-7H	SECTORAL				
	Salaries	100.3	248.6	(148.3)	1
	Other Expenditures	2,137.8	2,281.9	(144.1)	—
12-7J	CANADA/MANITOBA FOREST RENEWAL AGREEMENT				
	Salaries	12.8	61.7	(48.9)	1
	Other Expenditures	670.1	732.3	(62.2)	—
1212B11A	TOWN DYKES AGREEMENT	732.1	1,500.0	(767.1)	2
1212B11B	PARKS DEVELOPMENT	31.4	33.0	(1.6)	—
1212B11C	SECTORAL	493.5	508.6	(15.1)	—
1212B11D	CANADA/MANITOBA FOREST RENEWAL AGREEMENT	2,224.7	2,359.5	(134.8)	—
1212B11E	GULL HARBOUR RESORT EXPANSION	1,000.0	1,000.0	—	—
	TOTAL JOBS FUND	7,402.7	8,725.6	(1,322.9)	

Explanation Number:

1. Surplus resulting from delays in hiring staff.
2. Surplus resulting from delays in signing agreements and expropriation, and due to adverse weather conditions.